ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY.

ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY.

PUBLISHED BY THE

SOCIETY OF ANTIQUARIES OF LONDON.

VOLUME LV.



LONDON :

PRINTED BY NICHOLS AND SONS, 25, PARLIAMENT STREET.

SOLD AT THE SOCIETY'S APARTMENTS IN BURLINGTON HOUSE.

M.DCCC.XCVI.

ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY.

PUBLISHED BY THE

SOCIETY OF ANTIQUARIES OF LONDON.

SECOND SERIES. VOLUME V.



LONDON:

PRINTED BY NICHOLS AND SONS, 25, PARLIAMENT STREET.

SOLD AT THE SOCIETY'S APARTMENTS IN BURLINGTON HOUSE.

M.DCCC.XCVI.

DA20
A65
V.55-1

TABLE OF CONTENTS.

PAGE

I.—*A Clerical Strike at Beverley Minster in the Fourteenth Century.* *By* Arthur F. Leach, *Esq., M.A., F.S.A.* - - - 1—20

II.—*Of the methods used in making and ornamenting an Egyptian Rock Tomb.* *By* Somers Clarke, *Esq., F.S.A.* - - - 21—32

III.—*On the Roman town of Doclea, in Montenegro.* *By* J. A. R. Munro, *Esq., M.A., F.S.A.*; W. C. F. Anderson, *Esq., M.A.*; J. G. Milne, *Esq., M.A.*; *and* F. Haverfield, *Esq., M.A., F.S.A.* 33—92

IV.—*Notes on the Cathedral Church of St. Cecily at Albi.* *By* R. W. Twigge, *Esq., F.S.A.* - - - - - 93—112

V.—*The Vases of Magna Graecia.* *By* Talfourd Ely, *M.A., F.S.A.* 113—124

VI.—*On the more important Breeds of Cattle which have been recognised in the British Isles in successive periods, and their relation to other Archaeological and Historical Discoveries.* *By* T. McKenny Hughes, *Esq., M.A., F.R.S., F.S.A.* - - - 125—158

VII.—*The Battle of Bosworth.* *By* James Gairdner, *Esq.* - 159—178

VIII.—*On two fibulæ of Celtic fabric from Æsica.* *By* Arthur John Evans, *Esq., M.A., F.S.A.* - - - - 179—198

IX.—*On a Bronze Statuette of Hercules.* *By* A. S. Murray, *Esq., LL.D., F.S.A.* - - - - - - 199—202

X.—*Further Excavations in an Anglo-Saxon Cemetery at High Down, Sussex.* *By* Charles Hercules Read, *Esq., Secretary* - 203—214

XI.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1895. *By* W. H. St. John Hope, *Esq., M.A., and* George E. Fox, *Esq., Hon. M.A. Oxon., F.S.A.* - - - 215—255

LIST OF ILLUSTRATIONS.

PLATE			PAGE
I.	Rock-cut Tomb at Beni-hassan - - -	facing	22
II.	Figures on a pier in the tomb of Seti I. at Thebes -	facing	26
III.	Figures on a wall in the tomb of Seti I. at Thebes -	facing	28
	Plan of Temple of Diana at Doclea - - - -		53
	Plan of Temple of Minerva, Doclea - - - -		54
	Plan of a large Church at Doclea - - - -		56
	Plan of a small Church at Doclea - - - -		60
	Window moulding, Civil Basilica. Base-course, Small Church		61
IV.	Plan of the Roman town of Doclea, in Montenegro -	facing	92
V.	Ground-plan of the Cathedral Church of St. Cecily, Albi	facing	94
	Illustrations of Breeds of Cattle, etc.:		
	Fig. 1. *Bison Priscus.* Barrington Gravel - - -		126
	Fig. 2. *Bison Priscus?* Dredged up off Yarmouth - -		128
	Figs. 3 and 4. Urus (*Bos primigenius*) found at Burwell Fen, Cambridgeshire, with a Neolithic flint implement sticking in its skull - - - - -		130
	Fig. 5. The Neolithic implement found sticking in its skull		130
	Fig. 6. *Bos longifrons.* Burwell Fen - - -		134
	Fig. 7. Romano-British type with horn-cores showing a tendency to turn up. Reach Fen - - -		136
	Figs. 8 and 9. Diagrams illustrating horn curvature - -		138
	Fig. 10. Roman Ox, from a painting in Pompeii - -		138
	Fig. 11. Modern Italian Bull - - - -		139
	Fig. 12. Chillingham Bull - - - - -		139

PLATE		PAGE
	Fig. 13. Egyptian Cattle in bas-relief on temple of Hatshepsu	140
	Fig. 14. Sicilian type with long upturned horns	140
	Fig. 15. Coin of Euboea	140
	Fig. 16. Modern Italian breed	141
	Fig. 17. Abergavenny Bullock	141
	Fig. 18. Swiss Mountain breed	143
	Fig. 19. Highland Cow, after MacWhirter	151
	Fig. 20. Horn-core from medieval ditch	153
	Fig. 21. Horn-core from ancient drain-lands, Epping Forest	155
	Fig. 22. Long-horn Cow. Hardendale herd	156
VI.	Plan of the Battle of Bosworth — facing	178
	Antiquities found at Æsica, etc:	
	Fig. 1. Silver Collar or Chain found in Æsica	179
	Fig. 2. Gold Ring found at Æsica	180
	Fig. 3. Bronze Ring with gnostic gem found at Æsica	180
	Fig. 4. Side, back, and front views of a Brooch found at Æsica	181
	Fig. 5. Bronze Brooch with retroflected foot caught by a free collar	182
	Fig. 6. Bronze Brooch with collar and bow in one piece	182
	Fig. 7. Sketch showing development of British *fibulæ*	183
	Fig. 8. Brooch of early Pannonian form	183
	Fig. 9. Gilt Bronze Brooch found at Æsica	187
	Fig. 10. Gallo-Roman Brooch in the collection of Sir John Evans	188
	Fig. 11. Brooch from Idria di Bača	188
	Fig. 12. Brooch from Selzen	188
	[a]Fig. 13. Bronze Armlet found at Stanhope, Peeblesshire	191
	[a]Fig. 14. Bronze Armlet found near Plunton Castle, in the parish of Borgue, Kirkcudbright	192
VII.	Gilt bronze Statuette of Hercules found in Cumberland — facing	200
VIII.	Glass Vessel from a Saxon grave on High Down, Sussex — facing	206
	Fig. 1 Barbaric Bronze Head found in an Anglo-Saxon cemetery on High Down, Sussex	209

[a] These Illustrations have been kindly lent by the Society of Antiquaries of Scotland.

PLATE		PAGE
IX.	Saxon antiquities from High Down, Sussex - -	facing 214
X.	Silchester.—Plan of *Insulæ* XIII. and XIV. - -	facing 216
XI.	Silchester.—Plan of House No. 1, *Insula* XIV. - -	facing 220
XII.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV.	between 224—225
XIII.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV.	between 226—227
XIV.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV.	between 228—229
	Fig. 1. Block of wood and lead cylinders found in a well or pit in *Insula* XIV. - - - - - -	232
	Fig. 2. Conjectural restoration of a Force Pump found at Silchester in *Insula* XIV. - - - - -	234
XV.	Silchester.—Plan of House No. 2, *Insula* XIV. - -	facing 234
	Fig. 3. Fragment of a Capital found in House No. 2, *Insula* XIV. - - - - - - -	238
	Fig. 4. Bronze Figure found at Silchester - - -	239
	Fig. 5. Diagram showing restoration of pattern of a painted dado in House No. 1, *Insula* XIV. - - - -	250
	Fig. 6. Drawing and section of a glazed Bowl found at Silchester - - - - - - - -	253
	Fig. 7. Block-plan of Silchester, showing portions excavated down to October, 1895 - - - - -	253
	Fig. 8. Section of a Roman bronze Force Pump from Bolsena, Italy, now in the British Museum - - - -	255

ARCHAEOLOGIA:

OR,

MISCELLANEOUS TRACTS,

&c.

I.—*A Clerical Strike at Beverley Minster in the Fourteenth Century.*

By ARTHUR F. LEACH, *Esq., M.A., F.S.A.*

Read March 15, 1894.

BEFORE relating the curious episode in the history of ecclesiastical institutions which forms the subject of this paper, a few words on the constitution of the institution concerned are necessary.

Beverley Minster, the quasi-cathedral church of the East Riding of Yorkshire, was, until its dissolution in 1548, a college of nine secular canons. The Archbishop of York *quà* Archbishop was reputed (and disputed) founder, patron, visitor, head, and a canon, besides being lord of the manor and town of Beverley. Under him there was a provost, a kind of half-bursar, half-dean, also a canon, but not *virtute officii*, and seven other canons; the latter being, as at York, Lichfield, Ripon, the original number, pointing to a probable Culdee origin. Besides these were the usual three great officers or dignitaries—precentor, chancellor, and treasurer or sacrist; but these were not, as in most places, canons. Next came seven rectors-choral, called by the curious name of *berefellarii*; nine vicars-choral, one to each canon; a certain number of chantry priests, fifteen in number at the dissolution, but not more than seven at the time under notice; eight choristers, two incense-burners, and twenty-three clerks and inferior officers; a staff of seventy-seven in all.

What was the precise beginning of the struggle between Alexander Neville, archbishop of York, and the canons and other inmates of Beverley Minster, culminating in the year 1381 in a strike which was prolonged until 1389, does not appear. The documents relating to it, some found in the archbishop's registry at York, some in the Record Office, plunge us in true epic style into the midst of the fray.

"On the 27th of March, 1381," the *Processus sive Registrum* preserved in Archbishop Neville's register[a] informs us "that most Reverend Father in Christ . . . in the seventh year of his consecration" appeared at Beverley to hold a visitation of "his" collegiate church of St. John of Beverley "for the recreation," as the common form runs, "of the souls of the chapter, vicars, and clerks of the church." The summons for the visitation was dated "in our manor of Beverley" the 26th of February, 1380-1, and on the 2nd of March had been solemnly presented to the *locum tenens* of the chapter "in the chapter house at Beverley," one of the earliest extant mentions of this building now entirely vanished.[b] It is clear that relations between the archbishop and the inmates of the minster were already strained, and that disputes were anticipated as to this visitation, since ten days before it was begun, on the 17th of March, the archbishop had thought it necessary to publish "Letters Patent for removing fear." These state that "in case any desire to put forward frivolous or malicious excuses of fear or terror, wishing to close the path for such excuses, and, in our fatherly affection to consult the timid beyond what we are bound to do, we protest openly and publicly that it is not, and was not, our intention, wish, or design that any of the canons, vicars, or ministers of the church should be hindered in coming and going, or be disturbed, disquieted, or otherwise anyway ill-used." Accordingly he promises John of Scarborough, notary public, on the security of all his (the archbishop's) goods not to hinder them or do any violence to them, and commands his servants not to do them any harm. This proclamation he caused to be read by the Bishop of Dunkeld, who was apparently acting as a suffragan or curate-bishop, in a sermon in St. Nicholas' church; and again by the same bishop, when saying mass in full pontificals in the Black Friars' church in Beverley, before the chancellor, vicars, and other ministers of the collegiate church, and a large assembly of people. Next day it was published in York and Lincoln minsters, by special messenger.

This reassurance came too late. Already on the 20th of March, William English, the chapter's proctor, had in St. Paul's cathedral church, London, lodged an appeal to the Pope, and invoked the protection of the Apostolic See. Richard of Ravenser, archdeacon of Lincoln, senior canon and prebendary of St. Martin's, Beverley, also entered a similar appeal on the same day. From these appeals we learn some of the grounds of the quarrel. The chapter appeal states "That the

[a] Vol. ii. 3 pages after 59.

[b] *See* Mr. J. Bilson's paper on its remains, and what it was, in *Archaeologia*, Vol. LIV., pp. 425-432.

church was founded for seven canons only, and afterwards one other prebend, called the eighth, was lawfully created, which Sir Nicholas of Louth, called the eighth canon, now holds; which canons are bound to reside for certain months every year, and to them all the offerings and emoluments whatsoever coming to the same church ought to belong, and be divided amongst them, and there were never at any time more canons in number who had place in chapter." It then sets out the chapter's rights of jurisdiction in their liberty, and, amongst other things, their right to have "one summoner, servant, or beadle, to carry before the chapter in processions, especially on solemn days, a wand or staff, and to precede the chapter in processions, and also to serve citations." It then goes on to assert in terms that "there are eight canons and prebendaries in the said church, and not more, who have stall in choir and place or voice in chapter. Yet the archbishop asserts, though far from truly, that he holds a canonry and prebend in the said church, by reason of which it has been, and is, lawful for him to make his residence in the said collegiate church, and to reside as a canon there, and share in the emoluments and daily distributions, though he has a portion, or as it is commonly called a corrody, in it. And although the archbishops have held stall in choir, yet they have never had, nor has any one of them had, place in chapter, but they have always been without voice and place as canons in the chapter-house of the said church." The appeal also says that the archbishop claims the power of probate of wills and disposing of the goods of intestates in the chapter liberty, and in particular "has summoned the executors of the will of Sir Robert of Beverley, canon of the said church, although the registration of his will belongs to the chapter, and it was proved before the chapter or their legal deputy." The chapter next complain that the notice of visitation is too short, and they assert "that access to the presence of the said archbishop in this matter is not safe because of his fierceness, and the fear that they have of him and his." Ravenser's appeal is to the same effect, but adds that, "saving his reverence, the archbishop was and is notoriously a mortal enemy of him, Ravenser, and that the said archbishop, his men, and others adhering to him, have pursued and still pursue the said Richard with deadly hatred, so that through the craft of his enemies neither he nor his proctor nor his messengers have had or have safe access to the archbishop, especially in his own province, and above all in his domain of Beverley." Against the copy of this appeal, the archbishop has written in the margin, as if addressing the proctor, "Yet your messenger has come to the said archbishop with this writing, and his lordship has asked him to dinner, as he would have asked you if you had come, or your lord," meaning Ravenser himself.

On the 21st of March the chapter put in a second appeal, at St. Martin's-in-Ludgate, London, on the ground that the visitation ought to be held by the archbishop in person, and only once during his episcopacy.

The archbishop took no notice of these appeals, but on the day appointed for the visitation took his seat on a tribunal in front of the high altar. The notice of appeal was presented to him on behalf of the chapter by Thomas Kele, a messenger of the proctor, with a document asserting that the archbishop was aiming at the subversion of the whole foundation of the church; that he had exercised ecclesiastical jurisdiction in the chapter altar situated behind the choir, though it was notoriously exempt from his jurisdiction, and had held a chapter there daily, and punished those cited for their excesses, either in person or by his commissaries; that his commissaries had also caused the executors of one Richard Kyllyng, belonging to the exempt jurisdiction of the church, to prove his will before them, although it had already been proved before the chapter's assessor (*auditor causarum*). "The reverend father has also cited, or caused to be cited, Sir Robert of Lowthorp, executor of Master Robert of Beverley, and also of Sir Richard Killom, formerly vicar of Beverley Minster, and Adam de Bedall, executor of Sir Robert of Lynwoode, and John of Normanby, executor of John Swynfelte, all deceased, and, while they lived, notoriously under the jurisdiction of the chapter, the executors themselves being chaplains subject to the same jurisdiction, to prove the wills before him or his commissaries, although they had already been proved and approved by the chapter in due form." He had also summoned "Richard of Holm and Richard of Gretham, belonging to the same jurisdiction, and when they refused to appear had excommunicated them all with scant justice (*minus juste*), in spite of the decree of the general council. And the same lord archbishop had also caused to be cited a certain Margery, wife of Adam Coke of Beverley, a man living in the chapter's jurisdiction, for crimes committed within the exempt jurisdiction of the chapter, and wickedly compelled her to purge herself of the same." Moreover, "he had warned and straitly commanded, on pain of the greater excommunication, the chapter's summoner, no longer to exercise his office, nor to carry the wand or staff as is customary in the said church, or to do anything else pertaining to his said office. And, heaping grievance upon grievance, he pronounced excommunicate Sir William of Eleghton and Sir John of Sprottley, chaplains, immediate subjects of the chapter, after and in spite of their appeals from him to the apostolic seat and our lord the pope, though duly notified to him, too horribly inhibiting them from all communion with the faithful. And almost every day, at certain times and seasons, he had

caused a certain door of the choir to be shut, which always before used to be open, so that the canons and ministers of the church could go freely in and out of the said choir, and had the door guarded by his own servants, so that none could go in and out, thereby wickedly hindering and disturbing the divine office and those performing it, to the scandal of the church, and diminution of divine worship in the same."

The proctor who wrote the appeal then goes on, "and as I know not certainly where to find the said reverend father to give him notice of the present appeal within the time limited by law, and as I dare not, on account of well-grounded fear and torment of my body, such as may befall a man of ordinary firmness, personally inform the aforesaid reverend father of the said appeal, on account of the ferocity and power of the reverend father himself and his people," he protests that the appeal should stand good, and that he should have power to alter it if required.

On the 27th of March, when the archbishop opened his visitation, copies of these appeals were presented to him. He at once declared them frivolous and vexatious, and that he intended to proceed with his visitation. Thereupon he rose from his place, and entered the chapter-house, where the word of God having been declared by his official, a doctor of laws, whose text was "Visit this vine," he proceeded to his visitation.

Having had the citations for the visitations proved, the archbishop caused the members of the church to be summoned by the crier. First he called the eight canons, headed by Sir Richard de Ravenser, the senior canon and prebendary of St. Martin's altar. He had formerly been provost of Beverley, and was now archdeacon of Lincoln. Amongst the other canons may be noticed Nicholas of Louth, rector of Cottingham, whose brass is still in that church, and Master Walter Skirlaw, afterwards Bishop of Durham, who built Skirlaugh chapel, and left bequests for the tower of Howden church and the works at Beverley. Afterwards came the three officers, precentor, chancellor, sacrist, the seven berefellars, the eight canons' vicars, and the archbishop's vicar, seven chantry priests, and twenty-one clerks of the second form, fifty-five persons in all. Of these precisely three appeared, the precentor, Master Ralph Waleys, Thomas de Wyverthorp, one of the berefellars, and Adam de Waltham, chaplain (*i.e.* chantry priest). These swore fealty to the archbishop, the rest were pronounced contumacious, and the visitation was adjourned to the next day.

Before leaving the chapter-house, however, the archbishop "protested openly and in set terms that he was present, and wished to be present, in the chapter of

Beverley as a canon of the church, while *Preciosa*[a] was being said or sung there, and that as soon as it was finished, when he proceeded or was proceeding in his visitation, he was, is, and intended to be, present as archbishop and ordinary of the place."

The next day, the 28th of March, he merely appeared, and summoned them again for the following day. On that day, the 29th, the vicars appeared in the flesh, "although they would not appear in the act of visitation. He asked them why they would not undergo his visitation, though it was clear that they were his subjects, and had been lawfully cited. They answered that they did not dare to appear before him because of the lord canons their masters, and immediately left the chapter-house laughing (*derisorie*). The reverend father immediately called them back again, and when they returned he warned them to mend their misbehaviour"; and summoned Richard of Ravenser and John of Wenlyngburgh for the 30th. Meanwhile the other canons were summoned for the 22nd of April to produce any documents on which they wished to rely.

The archbishop proceeded with his visitation *de die in diem;* and some of the members of the church began to give up the struggle and submit.

Thus, on the 30th, two clerks of the second form and one chantry priest came in and took their oaths. The vicars were then summoned for the 5th of April to show cause why they should not be excommunicated. The next day two of the berefellars came in and made their submission. On the 1st of April, four clerks and one vicar (the archbishop's) came in and purged themselves of their contempt. The next day two canons, Nicholas of Louth and Richard of Thorne, appeared in chapter, submitted to the archbishop's visitation and took the oath, but in a modified form, adding a clause that it was "without prejudice to the chapter, and without receding from their appeal." The chancellor and two berefellars also appeared unconditionally. Thus of eight canons two had appeared, and another came in later; of three officers, two; of seven berefellars, five; of seven chantry priests, one; of twenty-one clerks, six; or seventeen out of the whole number (fifty-five) summoned on the 5th of April. The vicars came in a body, and the archbishop warned them to submit to his visitation or show cause why they should not. "Going aside they deliberated, and, immediately returning, said they could not swear obedience to him, as they had already sworn it to the chapter, and they had been ordered by

[a] The versicle and response at prime, "Preciosa in conspectu domini mors sanctorum ejus," after which all went out to the chapter-house, where the Martyrology was read and the business of the day transacted.

the chapter and canons, their masters, not to swear obedience to the archbishop or to anyone but themselves; and so saying they departed from his presence."

On Friday, the 5th of April, the archbishop's messenger appeared, and said that the vicars had departed from the church, because they were unwilling to submit to his visitation, and had left the church unserved. The archbishop, hearing this, "wishing rather to exercise mercy than rigour, awaited the said vicars at the request of the two canons until the next day, and caused them to be personally summoned; but next day the messenger brought word that he had looked for the vicars in the church and town of Beverley but could not find them, and was told that they were no longer in the diocese of York, but had departed towards London; so that the church might stand unserved to the opprobrium of the said reverend father." Thereon the archbishop instantly excommunicated them.

On Monday, the 8th, the archbishop entered the choir early at mattins, as was his wont, and seeing that the church would remain unserved through the absence of the canons and vicars, his heart being pierced with grief, he caused divine service to be properly performed by his own clerks; and three days afterwards summoned from York Minster a sufficient number of vicars expert in chanting and singing, and in other matters relating to the divine office, and placed them in the church to perform divine service in the place of those who had gone away, so that the church might not stand unserved through the malice of these malignant absentees against their prelate." He also summoned them again for the 22nd of April.

Here, then, we have the clerical strike fully developed, with the usual incidents which accompany the modern strike of more mundane persons. We have, to start with, the uncompromising, not to say violent, demeanour of the superior; the endeavour, successful in some instances, on the part of the superior to detach weak-kneed brethren from the common cause; the cessation of work by the strikers and their departure from the premises on which they worked in the hope of embarrassing the person who claimed to be their master; the introduction of "blacklegs" from other places, and, as we learn from another source, the discontent of the blacklegs. Finally, as we shall see, after great sufferings on the part of the strikers, came the complete defeat of the superior.

Before the day arrived on which the vicars had been summoned to return, namely, on the 21st of April, a royal sergeant-at-arms arrived with letters patent from king Richard II., telling the archbishop to stay proceedings and appear before the king in council at Westminster within the octave of St. George, *i.e.* before the 30th.

On the 22nd another canon, Richard of Chesterfield, appeared and made his

submission. The three canons who had now submitted were ordered personally to reside and perform the service. They protest that it had not been the habit for any canon to keep full residence, but Chesterfield and Smyth have done so more than the others.

The two leaders of the strike, Ravenser and Wellingborough, are excommunicated.

Next day the three canons are ordered to produce the documents on which they rely. They accordingly produce

1. An ordinance, of unknown date, as to the order of seats in the Bedern or refectory, and the food to be supplied to the canons and others;
2. An ordinance of Archbishop Greenfield, dated the 17th of April, 1307, curtailing the period of residence required of the canons to twelve weeks;
3. Certain ordinances made by the chapter to the same effect.

The last two will appear in the Surtees Society's volume, which will contain the Beverley Chapter Act Book, and need not be reproduced here.

The earlier ordinance is so curious and interesting a document that I give it at length. A very mangled English version of it, reduced mostly to complete nonsense, appears in Poulson's *Beverlac*,[a] taken from Warburton's Collections[b] in the British Museum, from a copy of a document which had been in the possession of "Master Sedgwike, vicar of Marflete, who kindly gave it to me," the original being "of the date of Henry II., Richard, or John," a sufficiently wide limit. That the original was ancient is clear, because in the copy of it in the Archbishop's Register there are several mistakes, which appear to be due to misreading. By a collation of the two copies I have, I hope, arrived at a fairly accurate text. (See Appendix.) The original would be a very valuable find. I translate it as follows:

"Order for the Ministration of the Refectory in the Bedern.

Since, by reason of the carelessness and negligence of the servants, complaints have oftentimes arisen between the Provost and Canons as to the service in the Dining Hall, the Archbishop and Provost and the Canons themselves, in person assembled, have determined that the order of sitting and the service of provisions, which seemed in former times to have been left without ordinance,

[a] George Poulson, *Beverlac; or the Antiquities and History of the town of Beverley, in the county of York, and of the Provostry and Collegiate Establishment of St. John's* (London, 1829), ii. 532.

[b] British Museum, *Lansdown MS.* 896, f. 132.

shall henceforth for ever be ordered as follows: provided, however, that the ancient dignity of the Canons shall be in no wise lessened by the present constitution; but, saving in all things their custom, licence, and power, their authority in all things within and without shall remain unshaken.

The order of sitting in the Refectory shall, therefore, be between them according to the order of succession; to wit, that, round the Provost, the seat of each Canon shall be where the place of his predecessor was; and in like manner, among the Vicars, the place of the successor shall be where the seat of his predecessor was.

On week-days, not being festivals, that is on Monday, Tuesday, and Thursday, if it shall be flesh time, they shall have four general dishes at dinner, honest both in quantity and quality. Of these, the first shall be according to the season, either pork or beef, and these not without vegetables, either beans or peas or cabbage; the second, either fresh mutton or fresh pork; the third, either chicken, or goose, or game (*lit.* or something which is the subject of fowling or hunting); the fourth, any kind of soft meat, either of mince (*mortariolis*), or of brawn (*braunell*), or of rissoles (*russolis*), or such other things as shall be convenient and honest. At supper (*vesperam*), two large dishes of meat, the one boiled, the other roasted; but if meat cannot be got, the one of meat, the other of cheese or eggs, or else of fish.

On Wednesday and Friday, and on Saturday, at tierce, the first dish shall be of vegetables; afterwards three general dishes of fish; but if fish cannot be got, its place shall be supplied by something honest and convenient. At supper (*vesperam*), two large dishes of fish, or if necessity shall require, other things which are honest and convenient. But if in these three days Rogation days shall intervene, or if there shall be any vigil, or in any other way it shall be a fast-day, a fifth dish shall be added because of the fast.

And on Sundays and common festivals, or those of three lessons, as it is from Easter unto Pentecost, or of nine lessons, at tierce a fourth dish shall be added, which shall be of soft meat as aforesaid. But if such feast shall fall on Wednesday, Friday, or Saturday, a dish shall be added in like manner; which dishes, as well of meat as of fish, shall be seasoned as they ought to be, either with pepper or cummin, or other savory sauce.

On the greater feasts, when the invitatory is sung by four, and the respond by two or three, as the feast itself is more solemnly performed than common feasts, so on the said feast both dinner and supper shall be supplied more fully than usual, viz. on the four days of the Nativity of our Lord, the day of

Circumcision, the Epiphany, and the Purification of the Blessed Mary, the four days of Easter, the Ascension Day, and the four days of Pentecost, and the day of the feast of St. John in May, and St. John the Baptist, and the day of the Apostles SS. Peter and Paul, and the day of the Assumption of the Blessed Mary, and the Solemnity of All Saints; as these days are celebrated joyfully and solemnly in the Church, so in the Refectory shall they be cheerfully honoured, viz. in simnel or in wastel, and in various entrées (*intermissis*).

In this manner the service of the Refectory shall be conducted throughout the whole year, the Advent of our Lord and Lent excepted; in which, both for the continuation of fasting and for the increase of the service, the service of the Refectory shall be enlarged, as in pulse and other pittances such as can be obtained, according to the season.

There shall be the same quantity and quality of bread and ale and number of dishes for the Canons and their Vicars, except that the said Canons shall dine and sup singly and alone, the Vicars two and two. But if a Canon shall not be in the Refectory he shall have his full corrody wherever he shall be. So also shall a Vicar have his full corrody if he shall be absent for any necessary or honest cause, which cause shall concern either the Church or a Canon. And if a Canon or Vicar shall have been bled, he shall be served according to his quality both with bread and ale, and from the kitchen one dish either of flesh or fish, according as the usage of the day shall be; at tierce and at supper as heretofore ordained. But if he shall be ill nothing shall be taken from his corrody.

And inasmuch as the management of every house is bettered by the diligence of the servants, and by the negligence of the same is made worse, the Provost shall, with the assent of the Canons, appoint honest and diligent servants; who, if they shall be negligent in their service, and having been reprimanded and punished, shall remain incorrigible, shall be removed by common council, and better ones put in their place.

Also it was determined concerning the seven poor men who have their corrody in alms for seven Canons in the Refectory, that at tierce they shall have two dishes and one at supper. And that each Canon shall know which of the said seven belongs to himself. And when this poor man dies, lest the Canon to whom he seems to belong should attempt to receive or usurp anything, it was determined as aforesaid by the common council of the Provost and Canons that another shall be substituted, and that he shall then be considered the almsman of the said Canon. Also it was determined that if any clerk of honest behaviour and assiduously serving the Church shall not have sufficient livelihood from another

quarter, then, for the improvement of the service of the Church, he shall be received in the place of a poor man.

But whatever has been said concerning the corrody of the Canons either within the Refectory or without (either in blood letting or in illness), the same fully applies to the Churchwarden (*custodi ecclesiae*) and the Schoolmaster, except that they do not eat alone.

Concerning the quantity of bread and measure of ale nothing has hitherto been said, inasmuch as its weight and measure has not been agreed upon, but by common consent they are to be greater and better than formerly.

Now those for whom this institution is ordained are eight Canons, the Churchwarden (*custos ecclesiae*), and the Schoolmaster, eight Canons' Vicars, and the Vicar of the Archbishop (whose portions and wages is the business not of the Archbishop but of the Canons in common), the Provost of the Archbishop, in number twenty in all. There were others for whom provision must be made, if not so fully yet duly and well, viz.: the Clerk of the Churchwarden, the Ringer of the Bells, and the Master of the Works (*magister operis*)."

The purport of this document being produced by the canons was to show (1) that the archbishop was not reckoned as a canon; (2) that when statutes were made to regulate the internal affairs of the establishment they could only be made with the consent of the canons, and a saving of their rights.

No discussion seems to have taken place on these documents. But on the part of the archbishop, an ordinance of archbishop Romanus made in 1290 was produced, which fixed the residence of canons at twenty-four weeks in each year, and required of the officers and vicars continual residence throughout the year. It is significant that it appears on the face of this document that the ordinance was made with the consent of the canons, and therefore tells strongly against the archbishop's main contention. Accordingly there is a direction in the margin, apparently in his writing, that it should not be entered on the record of the proceedings.

On the 24th of April the three canons who have come in urge the archbishop to proceed no further after the royal writ. But he only answered "Brothers and friends, the case of the visitation and correction and jurisdiction on which we insist is merely spiritual, and therefore not cognizable by any lay judge. And, moreover, you and all and each of you who have obtained these royal prohibitions against my jurisdiction, to hinder us in our visitation, or have given your counsel and help in obtaining it against the liberty of the Church, are (and they are)

ipso facto damnably intangled in the sentence of the greater excommunication laid down by the canons; and we shall proceed against you as justice demands, notwithstanding the king's letters."

And he accordingly instantly declared them contumacious, and for their contumacy shut them out by his decree from producing any more evidence.

Again, they beg him with urgent insistence (*ardua instantia*) to obey the royal writ. The archbishop protests he is ready to obey the king in all things, "saving the rights of our church of York and our jurisdiction, and visitation of our church of Beverley," a conscious or unconscious imitation of Becket's great saving clause, "saving the honour of my order." He then gives the canons till the 11th of May to show cause why they should not reside, as required by the statutes.

When that day comes he revokes Greenfield's ordinance, which had been in force for over seventy years, and restores that of Romanus, which had only lasted eighteen years.

On the same day another royal writ from the king in council, dated the 6th of May, arrives, and there the record suddenly breaks off.

We get the sequel of this story however from the Parliament Rolls, published by the Record Commission, in a petition to the king in parliament in 1384, from five of the vicars choral, one of the berefellars, and one chantry priest, who were still on strike, or rather locked out, asking for re-instatement. From this we learn that "Sir Robert Ross, knight, of the king's chamber, and Richard Hembrigge, sergeant-at-arms, the bearers of the royal writ, were met by the archbishop with a great multitude of the people of Beverley and the neighbourhood, clad in hoods of his livery given solely for the purpose of maintaining his quarrel, and would not suffer Robert and Richard to perform the command of the king and his council, and so greatly menaced them, that they dared not for fear of death proceed in that business, as was well proved afterwards before the king's council."[a]

It appears from another entry in Archbishop Neville's register[b] that Richard Ravenser himself was deprived of his prebend at Beverley by the archbishop, who on the 30th of August, 1381, presented Master Anthony of St. Quintin, rector of Settrington, to it, and invested him "by delivery of our cap (*birretta*)" in his great chamber at Cawood. But Master Anthony had some difficulty. When he presented himself at Beverley before Nicholas of Louth, "sitting in the chapter-house and making a chapter," the latter refused to admit him "because he had heard of a prohibition by the king against anyone doing anything against Ravenser." The archbishop however had taken care to be present, and admitted him himself,

[a] *Rolls of Parliament*, iii. 183. [b] Reg. Neville, i. 65*b*.

"clothed in the canonical habit," and as a sign of his admission the Archbishop and Nicholas kissed him, and according to custom caused him to be served with bread and ale in the Bedern. This Nicholas was, it is to be feared, somewhat weak-kneed, if not a trimmer and time-server. But it is not perhaps surprising, as in December, 1378,[a] a controversy had taken place between him and the other canons as to his share of the offerings in the church, which had been decided by the archbishop in his favour, and the archbishop's decision was that he the "eighth canon," the prebendary of St. Katherine's altar, was to have half the offerings, both at the high altar, and the shrine belonging to the said altar, if under 100 marks, and if 100 marks or upwards, then a fixed sum of 50 marks. This regulation reveals an astounding amount of revenue derived from St. John of Beverley, which made this prebendary the richest of all, especially as, if in residence, he was also to have his share of the other half equally with the other residentiaries. No wonder Nicholas could afford to build the tower of Cottingham church.

The other canons probably betook themselves to other places where they held preferments. Walter Skirlaw, for instance, was an official of the Crown. Henry Snaith was the same, and a canon of Howden and York to boot. But the vicars and chantry priests on strike had no other means of subsistence when they were locked out. For five years they lived at Lincoln, supported by Ravenser. But when he died, in 1386, without remembering them in his will, they were cast adrift, and had to become vagrants and mendicants; at least, so said the petitioners, when they asked for reinstatement until the case was determined by the court of Rome. In answer to this petition "it was accorded and assented in Parliament by good deliberation that a commission should be made to certain sufficient persons of the country to restore the suppliants to their benefices and put them in full possession of them." There seems to be some mistake in the Parliament Rolls, or by their editor, as to the date of this petition. It is given under the seventh year of Richard II., which is 1383-4. But in the petition it states that the petitioners had been living at Lincoln, or Nicole, as it is called in the Norman French of the petition, for five years and more; and as Richard of Ravenser's death is fixed by the probate of his will[b] to 1386, it is clear that the petition must belong to some later year than 1383-4. It cannot, however, be

[a] Reg. Neville, i. 66.

[b] *Memoirs illustrative of the History and Antiquities of the County and City of Lincoln, communicated to the Annual Meeting of the Archæological Institute of Great Britain and Ireland, held at Lincoln, July, 1848* (London, 1850), 316.

later than 1388, in which year archbishop Neville was impeached, proclaimed a traitor, and fled the kingdom.

The petition and its result have been hitherto all that has been known about this extraordinary case. On them Oliver, in his *History of Beverley*, has built, as he was in the habit of building, a muddled medley of romance, chiefly from "his own pure brain."

"Alexander Nevile, archbishop of York, taking advantage of the confusion in which the late occurrences had involved the country; and conceiving that the civil interdict which had been pronounced against the town of Beverley would lend a sanction to his avaricious designs, seized, without ceremony, on the revenues of the collegiate church, plundered the vicars and other ecclesiastical dignitaries, and violently expelled them from their benefices without due process, in contempt of the royal authority, by which they were protected, and placed other clerks, of his own appointment, in the vacant situations." [a]

By the "late occurrences" Oliver meant Wat Tyler's rebellion, and by the "civil interdict" he meant the exemption of the town of Beverley from the general pardon proclaimed after the rebellion broke down. Unfortunately for Oliver, he had put the cart before the horse (if, indeed, the two events had any connection at all), as the archbishop's quarrel with the minster had come to a crisis two months before Wat Tyler's rebellion had been heard of.

It remains to consider who was in the right, and who was in the wrong, in this protracted struggle. It must be remembered that both parties had ample precedents for the importation of physical force and spiritual violence into a purely ecclesiastical dispute, and that a constitutional and not a doctrinal one.

The quarrel for precedence, or equality, between the archbishops of Canterbury and York, particularly on the right of either to bear his cross erect in the province of the other, was carried on, literally *vi et armis*, from the days of Thomas, the first Norman archbishop of York, to the days of Thoresby, the predecessor of Alexander Neville, the archbishop with whom we are now concerned. It came to its height when in 1176 archbishop Roger, of York, attended an ecclesiastical council at Westminster, presided over by a papal legate, and Richard, the archbishop of Canterbury, having set himself on the legate's right hand, Roger sat down in Richard's lap; whereon the bishops and other clerics, being most of them in the province of Canterbury, pounced on Roger and threw him down, cuffed and beat him to their hearts' content, trampled him

[a] George Oliver, *The History and Antiquities of the Town and Minster of Beverley, in the County of York* (Beverley, 1829), 147.

under their feet; and when he was allowed to rise with a torn cope, covered with dust and shame, laughed at him; and when he left the assembly to seek the king's ear shouted after him, "Away, away, betrayer of St. Thomas, his blood is still upon thy hands."

It was not much abated when, so late as 1312, archbishop Greenfield of York, on his way to the council at Vienne, met with such rough usage at the hands of the servants of the archbishop of Canterbury that he had to get a royal writ to protect him on his return. In 1314 he had an opportunity of retaliation when the Court was at York, and the archbishop of Canterbury had to go there. Greenfield directed the dean and chapter of York, and his official or chancellor, to resist the archbishop if he tried to carry his cross, and the archdeacon of Nottingham, then part of the diocese of York, was to meet him on his entrance and make him put it down. It was not till 1352 that the quarrel was finally ended, by allowing each primate to carry his cross in the other's province. If the bearers of the two crosses met in the open street they were to walk abreast, but in a gateway or narrow passage the cross of Canterbury was to have the precedence. "Thus," says Thomas Fuller, "when two children cry for the same apple the indulgent father divides it betwixt them, yet so that he giveth the bigger and better part to the child that is his darling."

Next to York, Beverley was most closely connected with Lincoln; and there, in 1245, was a battle royal between Robert Grosseteste and his chapter as to the right of the bishop to visit the chapter. They exchanged anathemas and excommunications, the bishop sending the chapter, and the chapter sending the bishop to perdition, but the chapter had the best of it controversially, as they remarked that as the bishop was not "a gentleman born, it was no wonder that he did not behave like one." But though the chapter scored in controversy, the bishop won in substance, and the pope confirmed his right to visit.

As early as 1290 the right of the archbishop Romanus to visit the chapter of Beverley had been disputed; but the dispute cost Robert of Scardeburgh, dean of York, who was one of the canons, not only his canonry at Beverley but his deanery and prebend at York.

On the point of visitation, indeed, most chapters quarrelled with their bishops. There can be little doubt that the bishops generally were right in their insisting on their right to visit. At Beverley there can be no doubt the archbishop had the right. Indeed the chapter hardly contested the right, and only put forward the absurd pleas (i.) that he could only visit in person, and (ii.) only once during his episcopate. That he could not appoint commissioners to act for him was a thesis

utterly opposed to the whole practice of the Middle Ages as to all duties and rights, and especially the exercise of jurisdiction, which was founded on the assumption, *qui facit per alium facit per se.* Was not the chancellor of the University of Oxford himself only a commissioner of the chancellor of Lincoln, and the vice-chancellor a mere deputy of that deputy? The chapter of Beverley themselves exercised all their jurisdiction by a deputy, their *auditor causarum.* It was the habitual practice for bishops to visit by deputy.

As regards the second point, that the archbishop could not visit more than once, that also was an untenable proposition. Archbishop Romanus certainly visited Beverley twice, and deprived, as we have seen, a canon, who was also dean of York, for refusing to appear at his second visitation.

But on every other point the archbishop was wrong. He may have been right as a matter of antiquarianism, but he was hopelessly wrong as a matter of historical usage and constitutional law. If we go to the historical root of things, probably the archbishop, among his canons, was merely *primus inter pares,* a president among his ministers, who probably had all things in common. But it was idle for an archbishop in the fourteenth century to pretend to go back to a state of things which had ceased by the eleventh century, undoubtedly before the Conquest, and probably long before. After the chapter estates were divided from those of the archbishop, and the archbishop had the lion's share, it was absurd for him to claim to come in and take a new share, as a simple canon. Even if his corrody was a recognition of his ancient status as a canon, and the appointment of his vicar choral a further reminder of his historical position, the usage of centuries was against him. If at Lincoln Minster, the origin of which is known to a year (1090), the relation of the bishop to his chapter was so far forgotten two and a half centuries afterwards, that even his right of visitation was absolutely denied, in how much worse a position stood the archbishop to Beverley Minster, whose origin is disputed and first constitution unknown? His attempt to preside in chapter, and reside as a canon, was much the same as king James the First's attempt to assert his right to preside in the Court of King's Bench. John had presided personally in the King's Bench, especially if there was aduel on; why not James? It was in this same spirit of the historical pedant, mistaking history for law, that archbishop Neville advised Richard II. to obtain the opinion of the judges at the Council of Nottingham, that no ordinances in restraint of the royal prerogative could bind the king; advice which cost the archbishop his see and the king his throne. In his dealings with the constitution of the nation, as in his dealings with the constitution of his churches, Neville showed an utter contempt for

custom. Yet custom, far more than any written documents, then, as now, was the constitution.

It may be that the archbishop was in the right in wishing to enforce the personal and continual residence of canons, though, even theoretically, there is a good deal to be said on the other side, and the practice of non-residence had existed for two hundred years. But in his high-handed repeal of Greenfield's ordinance, which had been in force for seventy years, on his own *ipse dixit*, he was acting in the most flagrant contradiction to what he must perfectly well have known to be the law. A bishop in chapter, as regards law making, was precisely in the same position as the lord mayor in common council, or the king in council or parliament. Though the enactment runs in the name of the king, or mayor, it can only be made with the assent and consent of the parliament, or council. And Neville knew the written law was dead against him, when he caused archbishop Romanus' ordinance to be omitted from the record of the process, which he ordered to be bound and sent to the pope.

Whether his motives were good or not we have no means of judging. He came of a turbulent and violent family. His acts combined all the pride of the prelate and the arrogance of the aristocrat with the violence of the border baron. He was just the kind of person to wreck a constitution or "perish in the attempt."

In corroboration of this view of him, curious testimony may be adduced from a contemporary and independent source. In Canon Raine's *Historians of the Church of York and its Archbishops*, an account of Neville is given by an anonymous York chronicler.

"*Archiepiscopus iste*," he says, "unmindful of his oath made to God and St. Peter on the day of his enthronement, in the first year of his enthronement, and every year before," which apparently means as a canon, "assailed the dean and chapter of York, and especially Master John Clifford, then treasurer, and also the canons of the collegiate churches of Beverley and Ripon; endeavouring by all means possible to infringe their liberties and ancient laudable customs. Amongst other things, to order about (*imperare*) the ministers of the cathedral church, contrary to its statutes and ordinances, and to dispose of them at his own will: inasmuch that A.D. 1381, on the vigil of Palm Sunday, he compelled six vicars-choral of York to go to Beverley and there perform the choral office, in the place of the same number expelled thence: which six vicars of York for two years and more remained at Beverley, and about the feast of St. William in the summer

returned to York, the aforesaid Beverley vicars being restored, by authority of Richard II. and of Parliament, in A.D. 1388.

Also, in the first week of Lent A.D. 1384 he moved the consistory, synods, and convocations from York to Beverley, and there held them for four years.

Many absurdities and wrongs, far graver than these, he wrought against the dean and chapter and other ministers of his church, as, by thundering sentences of suspension and excommunication, or often without right dragging them to unlawful examinations.

Afterwards through the great discord between the archbishop and his subjects, continued through ten years, as well in the Court of Rome as here, when sentence had been definitely given against him in the Court of Rome, the inconvenience grew to such a height that King Richard II. in A.D. 1386 took the temporalities of the archbishopric under his care, and confiscated all the goods of the said archbishop."[a]

Two years later, as we have already seen, he attempted to subvert the constitution in the interests of despotism in the kingdom, as he had done in his minsters, but was proclaimed a traitor by parliament at Nottingham on the 5th of August, 1388, and had to fly the country in disguise. The Pope at Richard's request translated him to St. Andrew's, but the Scotch would have none of him, nor of the "Anti-Pope" as they thought him, who affected to translate him, and he eventually became a schoolmaster at Louvain, and died in poverty.

That some of the things he wished to do were good, or, at least, such as would be approved by purists, is, indeed, not to be denied. For instance, one of the points on which he quarrelled at York was about the performance of mattins. It appears that, at York, a convenient custom had sprung up of saying mattins over-night after evensong, as some schoolboys are said to clean their teeth, or even wash, over-night ready for the next morning. The archbishop insisted that they should be sung at dawn, at the proper mattins hour. But, like Strafford, he was one of those people who, even if they want to do something right, always do it, and seem to prefer to do it, in the wrong way. He would rather command people than persuade them, and force a thing through with the greatest possible friction, than take the trouble to get it done quietly. If in wrecking constitutions he wrecked his own career, we can only concur in the verdict of his contemporaries that it served him right.

[a] James Raine, *The Historians of the Church of York and its Archbishops* (London, 1886), Rolls Series 71, ii. 423.

APPENDIX.

Ordinatio de Canonicis in refectorio de ferculis in Beverlaco.

Quoniam de ministratione refectorii, propter in curiam et negligentiam ministrorum, sæpe inter Præpositum et Canonicos querela oriebatur, placuit Archiepiscopo et Præposito et ipsis canonicis personaliter congregatis, ut ordo sessionis et ministracio procurationis, quæ minus antea videbatur ordinata, taliter deinceps inperpetuum ordinetur; ita tamen ne presenti institutione prisca canonicorum dignitas in aliquo minuaretur, set salva in omnibus eorum consuetudine, licentia, et potestate, auctoritas eorum per omnia intus et extra inconcussa permaneat.

Erit itaque inter ipsos in refectorio ordo sessionis secundum ordinem successionis, scilicet ut circa Præpositum, ibi sit sedes canonici ubi fuit locus antecessoris. Similiter et inter vicarios eorum, ibi erit locus successoris ubi fuit sedes sui predecessoris.

Diebus ferialibus absque festo, hoc est ij^{a} iij^{e} et v^{ta} feria, si tempus carnis fuerit, quatuor generalia fercula habebunt ad prandium, honesta tam qualitate quam quantitate. De hiis, primum erit, secundum quod tempus postulaverit, vel porcina, vel vaccina, et illud non sine legumine vel fabis vel pisis vel caulinis, et hoc tempore oportuno. Secundum, vel recens ovina vel recens porcina. Tertium, vel galina, vel auca, vel aliquid aucupii vel venationis. Quartum, aliquod genus mollis cibi, vel de mortariolis, vel de braunell vel de russolis, vel aliquod hujusmodi quod conveniens sit et honestum. Ad vesperam duo plenaria fercula carnis, unum elixum, alterum assatum. Quod si caro reperiri non poterit unum carnis; alterum vel casei vel ovorum vel etiam piscis. Quarta vero, et sexta feria et Sabbato; ad tertiam, primum aliquod leguminis, deinde tria generalia piscis; quod si piscis non potuerit inveniri, suppleatur aliquo honesto et convenienti Ad vesperam, duo plenaria piscis, vel si necessitas fuerit, alia, quæ honesta sunt et convenientia. Quod si hiis tribus diebus Quatuor Tempora occurrerint, vel aliqua vigilia, vel alio modo dies Jejunii fuerit, quintum ferculum propter Jejunium addetur.

Dominicis vero diebus et festis communibus, vel trium lectionum, sicut est a pascha usque pentescosten, vel ix lectionum, ad tertiam, quartum addetur ferculum quod sit mollis cibi, sicut supradictum est. Si autem quarta vel vj^{a} feria, vel Sabbato, hujusmodi festum evenerit, similiter hujusmodi addetur ferculum. Quæ fercula tam carnis quam piscis secundum quod debent vel piperato vel cuminato, vel aliquo alio sapido condiantur condimento. In majoribus vero festis quando Invitatorium a quatuor cantatur, et responsorium a binis et trinis, sicut ipsum Festum celebratius agitur quam communia festa, ita in ipso festo, et prandium et cœna plenius solito suppleantur; sane quatuor diebus Natalis Domini, et die Circumcisionis, et Epiphaniæ, et Purificationis Beatæ Mariæ, et iiij diebus Paschæ, et die Ascensionis et iiij^{or} diebus Pentecostes, die festi Sancti Johannis[a] in maio, et die Sancti Johannis Baptistæ, et die Aposto-

[a] *i.e.* St. John of Beverley, 7th May.

lorum Petri et Pauli, et die Assumptionis Beatæ Mariæ, et solempnitate Omnium Sanctorum. Sicut isti dies festivius et solempnius in ecclesia celebrantur, ita in refectorio festivius honourabuntur; videlicet in seminellis, vel vastellis, et variis intermissis.

Hoc modo ministrabitur in refectorio, excepto Adventu Domini, et Quadragesima, in quibus et pro continuatione jejunii, et pro augmento servitii augebitur ministracio Refectorii, sicut est in pultibus et diversis pietatibus, quemadmodum pro oportunitate temporis haberi poterit.

Erit vero eadem qualitas et quantitas panis et servisiæ, et numerus ferculorum, canonicis et vicariis suis, excepto quod ipsi canonici singulariter et sibi prandebunt et cænabunt, vicarii vero bini et trini. Quod si canonicus in refectorio non fuerit, ubicunque sit, plenarium corrodium habebit. Similiter et vicarius, si interveniente aliqua necessaria causa vel honesta defuerit, quæ tamen causa vel ad ecclesiam vel ad canonicum pertinet, habebit plene corrodium suum. Si vero canonicus vel vicarius minutus fuerit, convenienter eis et de pane et de cervisia, secundum personam suam ter in die serviatur. Habebit etiam ad matutinas panem et cervisiam, et de coquina unum ferculum vel carnis vel piscis, secundum quod diei qualitas in se habuerit: ad tertiam et ad vesperam sicut alio tempore constitutum est. Si autem infirmus fuerit, nihil omnino ei de corrodio suo subtrahatur.

Quia vero procuratio omnis domus per ministrorum diligentiam melioratur, et per eorum nequiciam pejoratur, eligat Præpositus honestos et diligentes ministros, et eos assensu canonicorum in ministeriis præficiat. Qui, si in ministerio quocunque, negligentes fuerint, et conventi et castigati incorrigibiles extiterint, communi consilio amoveantur, et pro eis meliores substituantur. Placuit etiam de septem pauperibus, qui pro vij canonicis in refectorio suo corrodium suum habent in elemosina, ut ad terciam duo fercula habeant, et unum ad vesperam, et ut unusquisque canonicus sciat quis de illis septem ad se pertineat. Qui pauper cum obierit, ne ipse canonicus ad quem pauper pertinere videbatur, aliquid precipitanter vel usurpanter de altero substituendo moliatur, placuit ut prius communi consideracione Præpositi et canonicorum alter substituatur, et tunc demum elemosinarius ipsius canonici reputetur. Placuit etiam, ut si quis clericus, honeste se habens et ecclesiam frequentans, aliunde victum plene non habuerit, ad meliorandum servitium in ecclesia ipse in loco pauperis suscipiatur. Quicquid autem de corrodio canonicorum dictum est, vel in refectorio vel extra, vel in minucione vel infirmitate, hoc idem per omnia servitur custodi ecclesiæ, et Magistro scolarum, excepto quod ipsi non singulariter comedent.

De quantitate vero panis, et mensura servisiæ, ideo hucusque tacitum est, quia necdum inter eos de pondere convenerat nec mensura, quæ communi dispositione majoranda sunt et melioranda. Sunt autem quibus hac institutione serviendum est, viij° canonici, custos ecclesiæ, et magister scolarum, octo canonicorum vicarii, et vicarius episcopi, cujus positio et merces non ad Archiepiscopum sed ad canonicos communiter spectat, præpositus Archiepiscopi. Numero viginti sunt. Et alii quibus, et si non adeo plene, tamen ex debito, serviendum est, et bene, clericus custodis, tintinnabulorum pulsator, et magister operis etc.

II.—*Of the methods used in making and ornamenting an Egyptian Rock Tomb.*

By Somers Clarke, *Esq.*, *F.S.A.*

Read June 14th, 1894.

Although in his invaluable work on the Ancient Egyptians, Sir Gardner Wilkinson tells us a great deal about the sculpture, the painting, and the furniture of the tomb, and although Lepsius, Prisse d'Avennes, and others give us much information, I have nowhere found that any writer has followed the subject through from the time the order was given to make the tomb until it was completed ready to receive the mummy of the owner. The few notes I now lay before the Society were always made on the spot. My effort has been to draw the evidence from the excavations themselves.

It is perhaps hardly necessary to say that the ornamented room or rooms in a tomb were not the actual places of burial. To quote the words of Sir G. Wilkinson,[a] "besides the upper rooms of the tomb, which were ornamented, were one or more pits varying from twenty to seventy feet in depth, at the bottom or sides of which were recesses, like small chambers, for depositing the coffins. The pit was closed with masonry after the burial had been performed, and sometimes reopened to receive other members of the family. The upper apartments were richly ornamented with painted sculptures, being rather a monument in honour of the deceased than the actual sepulchre, and they served for the reception of his friends, who frequently met there and accompanied the priests when performing the services for the dead."

We must not forget that there were two sorts of tombs used by the ancient Egyptians. One, now called the *mastaba*, which, with the exception of the mummy pit, was built more or less above ground, and the pyramids themselves may be

[a] Sir J. Gardner Wilkinson, *The Manners and Customs of the Ancient Egyptians* (New Edition. London, 1878.), iii. 436.

included in this class; the other consisting of apartments and pits excavated in the rock.

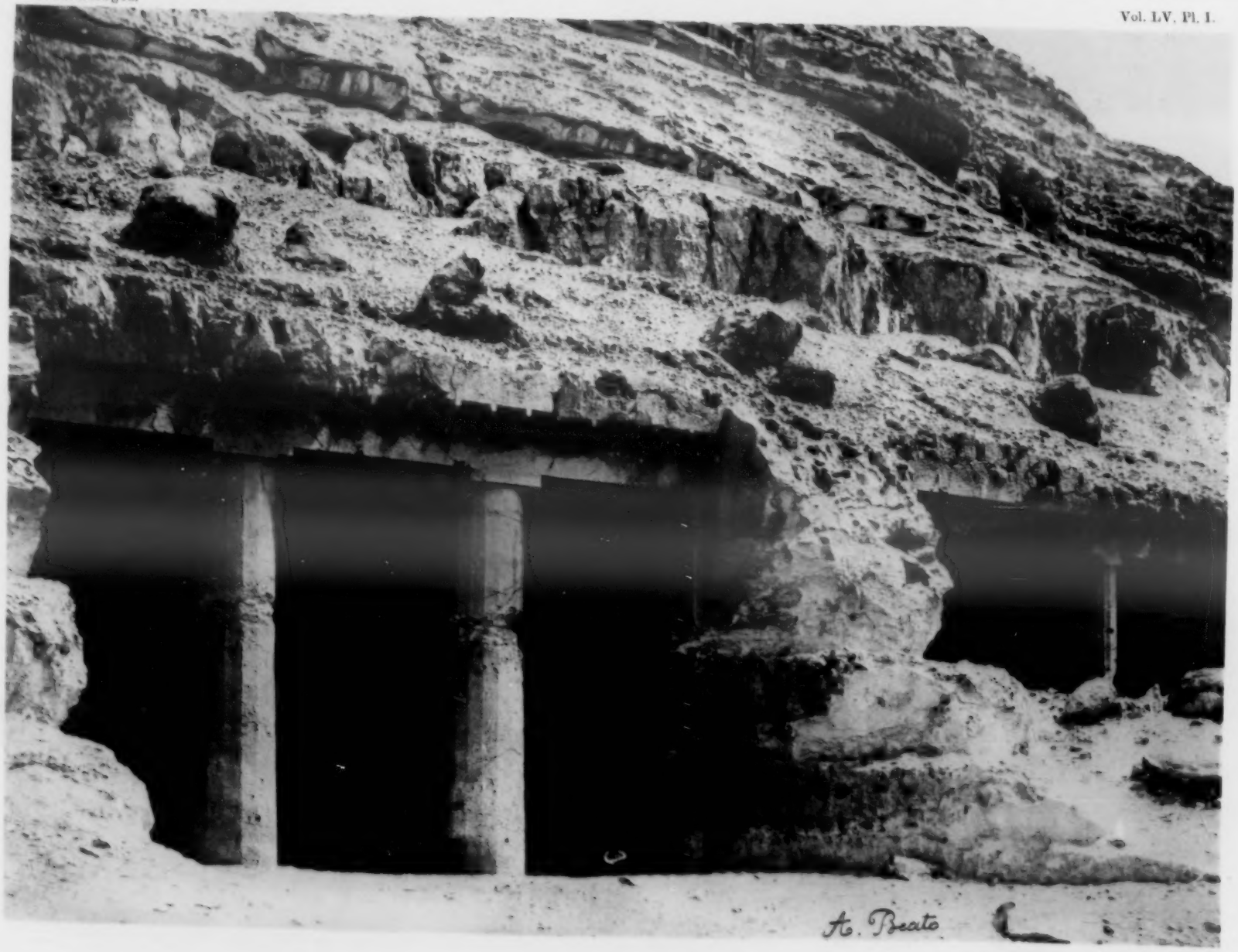
It is more especially with the latter class that I propose to deal.

The sides of the Nile valley, from Cairo to a spot about half way between Esneh and Edfu, are composed of limestone rock; above this spot the river flows through sandstone. In both formations the beds of good close stone are frequently of great thickness, but it often happens that the beds of hard material are but thin, and are over and underlaid by strata which yield readily to the action of the weather, or are so full of faults and cracks that no sound and lasting work can be executed in the material. If the thin beds of good stone occur, as they often do, near the site of some ancient city, and where a necropolis must be made, it is evident that the tomb-makers must have found themselves in no little difficulty, as it is only in the good stone that tombs of the first quality could be excavated, whilst in the beds of inferior material that defiance of time which was so essential a feature of the resting-place of the mummy could not easily be secured. From an examination of the tombs themselves we can see that the rich man in death, as in life, picked out the best place for himself. He not only contrived to cut his mummy-pit in hard sound rock, but the elaborately ornamented tomb chamber above had an equal advantage. The man of lesser degree had to content himself with rock of an inferior quality, but it will generally be found that the mummy-pit itself goes down into rock as hard as any that the strata in the place afford. The chamber above is the part of his tomb which comes off second best. There are yet other tombs in which the chamber above was constructed chiefly of brick, the mummy-pit only being in the rock.

Let us suppose that a man of importance proposes to make his tomb.

The necropolis is situated at the foot and on the slope of a hill. The hill being composed of strata of good and bad rock, its slope has formed itself into a series of cliffs; the good rock, resisting the action of the weather, makes a more or less vertical face, whilst the bad rock crumbles and presents a front more or less sloping.

The accompanying photograph (Plate I.) from Beni Hassan shews well the conditions with which the tomb-makers had to deal. Above the opening into the chamber we see the rock in slopes and steps, the slopes being formed in part of the *débris* fallen from the steps. In a good deep bed the entrance and the chamber has been cut, the face of the rock being made vertical, and the flanking pieces showing the natural slope of the face of the hard material. It can be seen that in the example given there is a faulty vein which runs horizontally through the thick bed.



ROCK-CUT TOMB AT BENI-HASSAN.

Already there are very many tombs cut in the hill side. The great man has to make the best of the good places still unoccupied.

Wilkinson states[a] that the tombs "were the property of the priests, and a sufficient number being always kept ready, the purchase was made at the shortest notice, nothing being requisite to complete even the sculptures or inscriptions but the insertion of the deceased's name, and a few statements respecting his family and profession." I do not find that Wilkinson qualified this general statement in any way. If it be true in all cases, a man cannot have selected a site and have had a tomb made and adorned especially for himself.

There are, however, in many tombs wall-subjects which seem to relate distinctly to the owner and to differ from the subjects in adjoining tombs; they are in fact so entirely unlike such decoration as we might expect to find it if ready made, that it is hard to accept Sir G. Wilkinson's statement without reserve; on the other hand whatever he says deserves the greatest consideration and respect.

The latest writer on the subject, Dr. Budge, does not make the matter much clearer. In his recently published book, *The Mummy*,[b] he tells us, on page 157, that Ani, the scribe, began to hew out a tomb for himself many years before his death. At page 315, however, he states that "the size and beauty of a tomb and its furniture depended, as much as the making of the mummy, upon the means at the disposal of the relatives of a deceased person." These statements do not agree. At page 326, he seems again to contradict himself, saying, "It is tolerably certain that these scenes are not fictitious, and that they were painted while the person who hoped to occupy the tomb was still alive and could direct the labours of the artist." He does not at all support the views of Wilkinson, but he still leaves us in doubt whether a man made a tomb for himself or whether his representatives made it for him.

It would be presumption on my part to put forth any definite opinion on the matter, but, judging by the evidence of the tombs themselves which I have seen, I shall take leave to suppose that in many cases the tomb was excavated and adorned either by a man for himself or by his representatives for him, and that the "ready-made article" was not so common as Wilkinson would lead us to think.

Where a necropolis is of high antiquity, and has been long in use, the rock-cut tombs (and it is of such only that I am speaking) are often crowded together one above the other in an extraordinary manner. One tomb is cut below or above another, or the tombs are placed side by side in so close proximity that the rock left between one chamber and another is not more than from 4 to 5 inches thick.

[a] Wilkinson, *Manners and Customs of the Ancient Egyptians*, iii. 433.

[b] E. A. Wallis Budge, *The Mummy*. Cambridge University Press. 1893.

We can only wonder that the face of the hill, thus riddled and honeycombed, has not fallen in, as in some cases no doubt it has. The robbers of tombs have broken their way through these thin partitions, and it is often possible to pass through four or five tombs in succession, entering by the door of one and coming out by the door of another.

From what has been said, it will be evident that the great man had not always a good choice of sites for his tomb. It was essential that he should have a bed of solid stone not less than 12 or 14 feet thick, free from horizontal faults, and free, if possible, from vertical fissures. A few cracks and fissures did not matter in the mummy-pit, where the surface was not to be sculptured or adorned.

The position having been selected and the size of the work decided upon, the workmen were now called in to make the first excavation for the tomb-chamber or chambers and for the mummy-pit. This was done by "rough hewers." It was the business of these men to make in the hill side a chamber of the required shape and measurement. The dimensions and instructions given must have been pretty exact, even at this early stage of the work, or stone would not have been left for details so thin as the front walls often were. The marks on the rock walls show that a chisel somewhat less than half-an-inch wide in the blade was very commonly used. The marks of this are often 2 inches or more apart, showing that labour was economised, the largest possible pieces of stone being flaked off at each point of attack. In the result the rough hewer often went too far, and we can see that the masons and sculptors who followed him and finished the work have often been placed in difficulties to get over defects of his making.

The section of the chamber, whether it should have a flat or arched ceiling, is one which it cannot always have been easy to decide at first. When cut in the deepest bed and best part of the rock it is not likely that the rough hewers would meet with a horizontal fault of so serious a nature as to make them fear that the roof would not stand. The section of the chamber roof could be either arched or flat as preferred. Where, however, the bed of rock was thinner and was overlaid with a layer of laminated and unsound material, it is evident that the good stone must be reserved for the sculptured walls, and the roof must be made as it best could be.

In many cases we find that the fault, more or less horizontal, which separates the good bed from the bad has dictated the line of the roof. The hewers have worked up to this and have left it at the natural tilt of the stratum whatever it was, fearing to cut into it. In such a case the tomb-chamber will not have a perfectly flat ceiling, but one sloping a little to the right or left. We may therefore see very good walls with a very shabby roof, the plaster with which the natural irregularities of the roof were covered having all fallen away and perished.

In other cases the interior of the chamber looks more like that of a natural cave, with a roof more or less arched, than something cut by the hand of man. This is, however, to be accounted for by the fact that the rock split up so readily that it could only be trusted to stand in an arched form, and in getting it to this shape pieces larger than intended flaked away. These breaks were made good with plaster, and for a long time the arched roof, with its plaster painted, would have looked as good as if it had been cut in the hardest stone. The lapse of some thousands of years has, however, not only caused the plaster to fall but large pieces of stone with it, shaken, no doubt, by the rough hewers in their work. Hence the cave-like appearance of some of the arched tombs.

When the rough hewers had finished their work they were followed by the men whose business it was to prepare the walls for the sculptors or painters, or both. These men I have called the masons. They made use of a tool much smaller than that used by the rough hewers, and went over all the surfaces of the good stone, leaving tool marks quite near together. It is, however, to be observed that the masons were by no means so exact as they might or should have been in getting the faces of the stone vertical or the horizontal lines of floors and ceilings true. Even in very highly-finished chambers the wall surfaces bulge in such a way as to prove that the masons were very careless.

One important office the masons had to fulfil, and that was the mending of faulty places. However good the stratum of stone may have been, it was seldom without some fissures or holes, or perhaps nodules of hard stuff, too hard for the sculptor to deal with. The large holes and fissures were made good by letting very neatly into the rock pieces of good stone. Small holes and cracks were stopped with hard plaster.

When these mendings and preparations had been done, the walls of the tomb-chamber presented an appearance fairly even, but covered all over with a corduroy pattern of chisel marks, and with patches of stone here and there very neatly inserted with fine white plaster. Small spots of plaster indicate the position of small faults in the walls, too small to mend with stone. So much for the walls. The roof now claims our attention. When cut in somewhat poor rock, and patched with plaster, it cannot at this stage have looked very attractive. It has already been said that the stone was apt to flake, pieces coming away in the working considerably behind the line of the intended face. In such cases the faults are not filled in with stone, but with plaster. The large pieces of plaster required seem generally to have been made of Nile mud and chopped straw, mixed perhaps with cowdung. This was subsequently covered with fine plaster, corresponding with that used for filling the small holes.

Following after the masons came the rubbers, those who rubbed down

the surfaces with a piece of stone, effacing to a considerable extent the tool-marks left by their predecessors. Judging by the result, we are led to suppose that it was not until these men came on the scene that any direct efforts were made to reduce the irregularities of the surfaces as left by the rough hewers. If we take a chamber hewn in the rock, the dimensions of which it was decided should be 12 feet wide throughout and 25 feet long, we shall find that, in fact, its width is irregular. At one end it is, perhaps, 12 feet wide, at the other $11\frac{1}{2}$ feet. The right wall between these two extremities may not only advance or recede from a straight line drawn between the two ends, but it will in one place overhang its base a little, in another it will recede. The left wall will not be more exact. There can be little doubt that these defects are chiefly due to the want of proper control exercised over the rough hewers, who seemed to have hacked away with more vigour than care. The masons somewhat mended the matter, but through the marks of their chisels one can often see the deeper scars left by the rough hewers. Where the rough hewers had gone too far the masons feared to efface their marks, or the wall surface would have become too uneven. The rubbers, working more gently, have in many cases effaced the marks both of the rough hewers and of the masons on a bulging piece of wall; but they in their turn were afraid to go too far where the wall face was already concave. Their instructions evidently were to secure a fairly even rather than a perfectly smooth surface.

When the hewers, the masons, and the rubbers had completed their work, the appearance of the rock chamber is found to be somewhat improved, its wall surfaces being now sufficiently smooth for the decorators to ply their arts, whether sculptors or painters or both. Their first step was to lay a fine coat of white over the whole surface. When this was done the stone and plaster patches were no longer visible. On the coat of white, vertical and horizontal lines were set out with great care, in red. By means of these the walls were divided into squares or rectangles. On the same wall and immediately adjoining each other, the red lines varied very much in their distances apart. To give an instance, I have in one case and on the adjoining surfaces found the lines over a given surface to be 2 inches apart; over another $1\frac{1}{2}$ inch; and elsewhere $\frac{9}{16}$ of an inch apart.

The difference of arrangement of these lines seems to be dictated by the scale of the figures or inscriptions which were to be drawn over them. Where inscriptions were to come the squares are smaller than where the design was to include figures. It was not a very difficult matter to set out a quantity of vertical and horizontal lines with considerable accuracy upon a fairly even wall surface; but it is not a little astonishing to see how exactly the lines are set out crossing the hollow curve of an arched roof. One is at a loss to understand why the masons'



FIGURES ON A PIER IN THE TOMB OF SETI I. AT THEBES.

work should be performed so carelessly, whilst the craftsmen who followed after worked with so much accuracy. The red lines thus set out were intended as a guide to the figure draughtsman and to the draughtsman of the hieroglyphs and the roof decorations. The outline and often very much detail of everything that was afterwards to appear on the walls was drawn over the red lines by subordinates and corrected by the master.

It would be to go over well-trodden ground were I to say much on this point, all books upon Egyptian art treat of it, but I cannot dismiss the subject without expressing admiration for the admirable skill of the draughtsmen. Their work varies in quality, but the bold firm line carried often at one sweep down the whole front of a figure cannot be too highly praised. The result is full of freedom, always, of course, within the conventional lines by which the art was ruled. Although the faces are without expression, not only are the figures well poised on the feet, but there is a sense of movement and elasticity which it might have been thought the restrictions imposed on the draughtsman would have made it impossible to suggest.

The photographs here reproduced are from the interior of the tomb of Seti I. at Thebes. The standing figures (Plate II.) are drawn upon a square pier carrying the roof; the other (Plate III.) is drawn on the wall. In Plate II. the photograph does not show the red lines crossing each other, but we can clearly see how the figure draughtsman did his work after the subordinate had drawn the merely decorative pattern at the angle of the pier. The shoulders and several other parts of the figures are drawn quite over the decorator's work, and the draughtsman was evidently impatient of being crippled by the exact space in which he was to have worked. We can also see in the feet, the arms, and several places the two lines, first of the pupil or subordinate who drew in the figure, and secondly of the master who with a firm hand and sure line corrected the work and left it ready for the sculptors. In Plate III. the same system of correcting the first draughtsman can be traced, more especially in the feet of the figures at the top of the photograph.

The work of the draughtsman in outline being finished, the carvers and sculptors come upon the scene. I use these two words with intention, as an examination of many wall surfaces shows very clearly that as far as possible the merely mechanical work was done by men with little skill. The final work was done by men who may with justice be called sculptors, and these often of no mean order.

In Egypt, as in other countries, however conventionalised art might be, the skill of craftsmen varied. Not only are there differences of skill at different periods, but at the same time and in the same place it is easy to trace the hand

of the second or third rate man as distinguished from that of a man of high ability. At Sakkâra the tombs of Ptah-hotep and of Ti are the same in style, but wonderfully beautiful as is the sculpture in the tomb of Ti, it is distinctly inferior to that in the tomb of Ptah-hotep.[a]

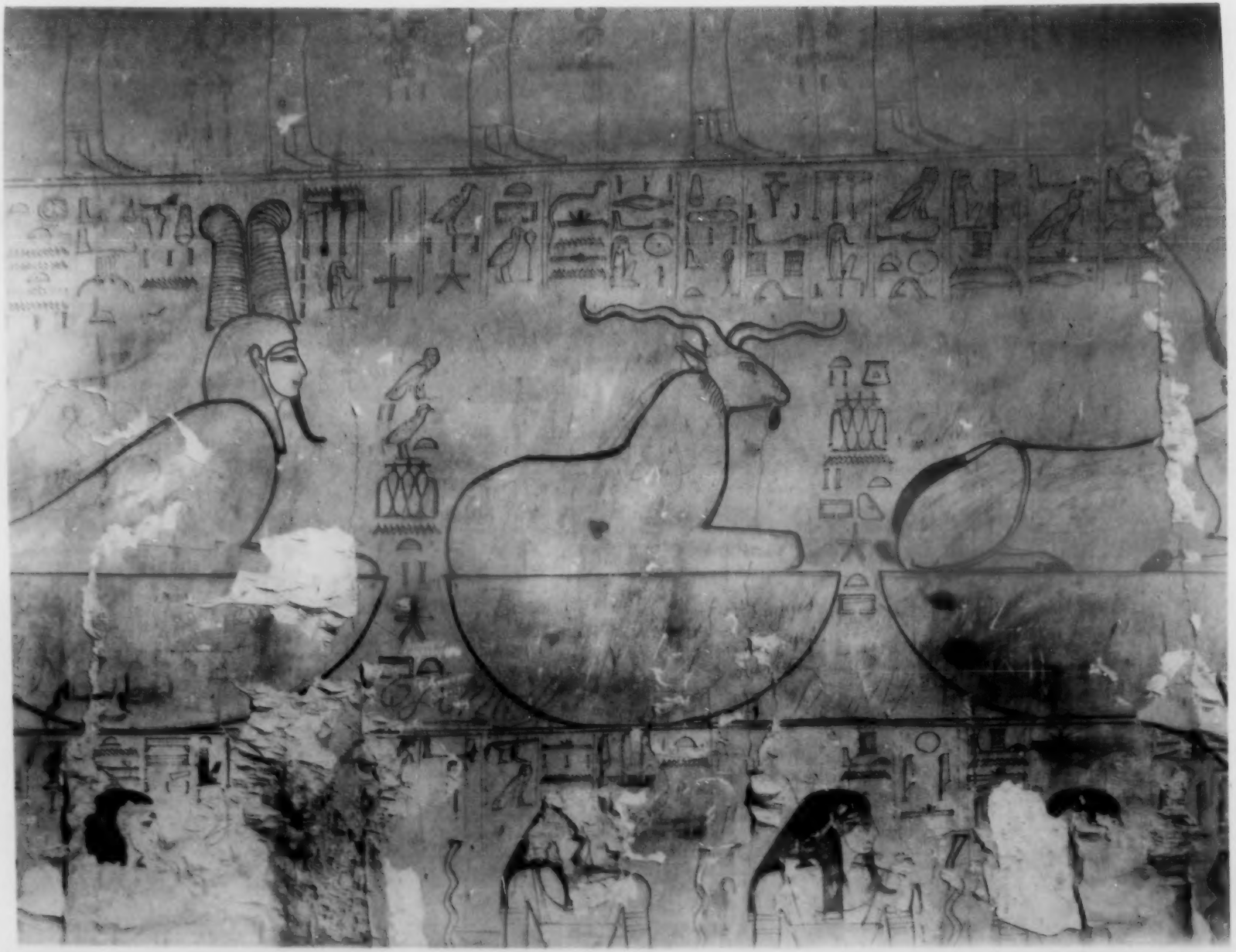
Wall sculptures are in two kinds, low-relief and sub-relief. The earliest Egyptian wall sculptures that we know of are, almost without exception, in low-relief, standing forward from the back-ground not more than $\frac{1}{8}$ to $\frac{3}{16}$ of an inch.

Sub-relief is the name I propose to give that kind of sculpture which is by some called Egyptian relief, by others relief "en creux," by Wilkinson "intaglio rilievato." The highest point of this species of relief does not project beyond the general plane of the wall surface, to which surface it is, in fact, subordinate. Some short name was required to designate it, and I have to thank Professor Mahaffy for assisting me to evolve this one. Numerous examples of sculpture in sub-relief may be found before the time of Rameses II., but in his time sub-relief became universal.

On the square pillars in a room of the mastaba of Mera, recently found by Mr. De Morgan at Sakkâra, the sculptures are in sub-relief, and this mastaba is assigned to the period of the sixth dynasty. On the columns of Ptolemaic temples, buildings in which the sculptures are almost always in relief, the sculpture on the piers and columns is in sub-relief, showing how, when once established, a custom remains unchanged for vast numbers of years. While sculptures on the walls of a given temple are in relief, those on columns are in sub-relief, the intention being, no doubt, not to break the outline of the pier or column by the irregular projection of the sculptures.

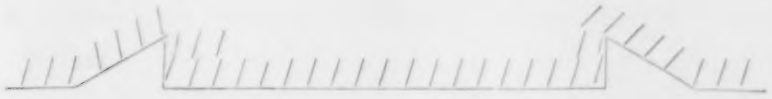
With works of the Ptolemaic and later periods I am not now concerned. Egypt had by that time ceased to be purely Egyptian. External influences were getting strong. When the sculptures were to be executed in low-relief, it is obvious that a great deal of the work connected with the removal of the intermediate surfaces, so that the figures should stand forth from the background, would not demand great skill of hand. While a sculptor would be needed to deal with the delicate modelling of the figures, a skilful apprentice could cut the first outline, and a less skilled hand could remove the surrounding material. In the tomb of Mera before referred to, the progress of the work done in this way

[a] The objection may be raised that in referring to these tombs I am travelling outside my subject. They are not rock tombs but mastabas. This is true, and as a further objection it may be said that the sculpture within these mastabas is upon masonry, but as a matter of fact the methods of work are the same whether upon masonry or upon the stone face gained in the solid rock. The sculpture in the rock tomb, the temple, or the mastaba has all its essentials in common.



FIGURES ON A WALL IN THE TOMB OF SETI I. AT THEBES.

can be seen. Here we find the figure drawn in red outline on the stone. A groove of a V section has been cut all round it, leaving the figure standing in the



midst, a white silhouette. In my sketch section I have very much exaggerated the depth of the groove, which does not, in fact, exceed $\frac{3}{16}$th of an inch.

In some parts of this mastaba the outlines of the figures are merely scratched on the wall. First the sketch in red, and then the scratch following its outline. In other places the painted outline of the figure remains, and the ground has been cut away all round up to this outline, the figures perfectly flat standing forward in low-relief, and with a clumsy edge.

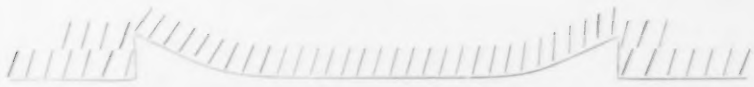
It is to be noticed that the draftsman's work is usually finished carefully in every detail, an unnecessary labour, one would think, as every piece of his work would ultimately be cut away by the sculptor.

The next step is for the sculptor, working within the lines thus established, to finish the figure. This is done in many cases with extraordinary delicacy. The modelling of the limbs, especially of the knee joints, is quite remarkable. The figures being finished, the removal of the intermediate plane surfaces was undertaken by the workman in the third degree, and so the work was complete. Whether the sculpture was executed in fine white limestone or in sandstone, there seems to have been the same effort used at a good period of art to finish work of the first quality in the very best way. Whether it be in the Temple of Seti I. at Abydos, cut in the most beautiful limestone with a surface like ivory, in the Temple of Thothmes III. at Amada, or of the same king at Wadi Halfa, the last two being in Nubian sandstone (not a very satisfactory material), the same amount of care is used. In tombs there is a greater variety of workmanship. Some are finished in a manner very superior to others.

When the figures were to be worked in sub-relief, it is evident that all the work of removing the intermediate surfaces had not to be undertaken. As soon therefore as the draftsman had finished, the sculptor at once began his work, and his particular care was to avoid cutting into the vertical side of the sinking within which the relief was sunk. It will be seen by the sketch that the section of his work was almost the opposite of that which has already been given. He had to make the groove by which the figure was distinguished from the ground, within and not outside the red line left by the draftsman, and had to be particularly

careful not to break the sharp edge of the sinking within which the figure lay. The skill with which this is done, in a hard material like granite, is most astonishing.

There are in many cases tombs left half finished, and from these we may learn



how the work was done. The method of work does not always seem to have been the same. We sometimes find the whole intermediate surface forming the background of the low-relief completely removed and the figure left in silhouette, as I have already stated. From this we may suppose that but one hand was employed to remove all the background.

One thing is quite certain. There was considerable sub-division of labour. The man who cut the figures was not the same who cut the hieroglyphs, for we see in many cases the figures completed and the hieroglyphs still sketched in red and uncut.

I think this sub-division extended to works on the largest scale. In the rock temple at Abu Simbel there is a difference between the face of the northern figure and the faces of the other two. There is a subtlety and power about the one face which the others lack. I think that the master-hand directed the work in the one case, and this had to be copied for the others. The same remark may be applied to the standing Osiride figures within this temple. The faces are very good, the figures themselves are clumsy and ill-proportioned.

Even when the sculptures and hieroglyphs had been finished, the work was far from complete. Everything had to be painted. The work of the sculptor was, in fact, a mere vehicle for that of the painter.

At this point a considerable difficulty presents itself, and that is, that in consequence of the reckless hacking of the rough hewers there are still left innumerable chisel marks, and sometimes even big tool marks, on what should be perfectly smooth surfaces. It is not unusual to find that those surfaces of figures in low-relief which are most raised from the ground are still scored with tool marks. When the subjects are worked in sub-relief the tool marks can be traced, not only on the figures, but over the whole of the intermediate surfaces, the rubbers not having thoroughly effaced them. Proper care exercised when the work was begun would have prevented these troubles. It is not a little curious to observe how on one hand there is great carelessness, and on the other prodigal waste and repetition of labour in carrying to completion such a work as we have

under consideration. For want of this care the painter and decorator had often to work over the surface scored with tool marks. Their first step was to cover once more with white the whole of the surfaces. They made use of a fine white gesso, which overcame the absorbent quality of the stone. It is evident that there were different qualities of finish, according to the price agreed upon. In some cases the surface of the gesso is so fine and hard as to reflect light like the surface of an egg-shell; in others it is evident that a much more common material was used, somewhat thick and viscous, so much so that it very seriously interferes with the sharpness of the sculptor's outline. In all cases the delicacy of the sculptor's work was partly lost, and to recover the outline a tool, which must have been of the nature of a modelling tool, was often used, leaving a slightly indented line upon the gesso.

In many instances the sculptor has finished small details, such as feathers on a bird's wing, the ornaments of a necklace, etc. which the gesso almost effaces. These details have to be brought up again by the painter. This craftsman is often not very particular to follow exactly the lines made by the sculptor. In fact, the high finish left by the sculptor is almost, if not entirely, thrown away. In that excellent, but not very accurate, work, *A History of Art in Ancient Egypt*, by Perrot and Chipiez, a view of the painter's work is set forth which is, I think, very common but excessively false. It is said:[a] "When nothing interfered to prevent the completion of the work, the painter came with his palette and brushes to spread colour over the spaces enclosed by these lines." (Reference is made to the lines left by the draftsmen.) "Nothing could be easier than his task. He was only required to lay his colours smoothly and to avoid overpassing the boundaries laid down for him. The hues of the flesh and of the draperies were fixed in advance, as well as those of the various objects which were repeatedly introduced in such work."

The process described seems but one degree in advance of that required to adorn cheap prints, "a penny plain, twopence coloured." It is true that certain colours were set, as red for a man, yellow for a woman. To lay on these was the simple part of the work, but even in the colours of flesh there was room for complication. In the photographs from the tomb of Paheri at El Kab, shown in these rooms last November by our Fellow Mr. J. J. Tylor,[b] it could be seen that where two men stand together one will be a little darker in colour than the other; the same applies to animals. This was done in order that the front figure might be sufficiently relieved from that which stood immediately behind it and had

[a] Perrot and Chipiez, *A History of Art in Ancient Egypt*, ii. 332.

[b] *See* Plate IV., "Wall drawings and monuments of El Kab." *The Tomb of Paheri.* By J. J. Tylor and F. Ll. Griffith. 1895.

almost the same outline. The details were finished in the most elaborate way. As I have already said, the feathers, carefully and accurately rendered, are painted on a bird, the scales on a fish. The ears of corn are drawn in outline in red upon a field of golden yellow. Some ears are standing erect, others have been bent over, whilst again others are shown with their stems drawn together in the grasp of the reaper. The little teeth are drawn in his sickle, necklaces and ornaments are elaborated with the most careful minuteness. And then it is not true that the painter had merely to keep within the boundaries laid down for him. Perhaps he should have done so; as a matter of fact, he did not. An outline, in a fine, firm, and narrow red line, surrounds all yellow and white colours, and this was drawn by the painter on the gesso which had already effaced the lines of the first draftsman, and this same line very frequently differs a good deal from the outline left by the sculptor. Sometimes the work is pure freehand drawing, as where white lines are drawn across the limbs to indicate a drapery of semi-transparent muslin. Whether we examine temples or tombs we shall see that none of the arts made use of were carried to a higher degree of elaboration than that of the painter. The roof of a tomb was generally painted, and not carved.

We have now followed through the process of preparing a tomb-chamber from the beginning, from making a rough hole in the rock and getting it into better form by the masons to the highly minute and elaborate finishing by the painter, whose work should, perhaps, be more correctly described as illuminating. Very much more could be said on the subject of the sculpture and painting; the strange inaccuracies of the sculptors, the ease with which they might have made horizontal or vertical lines and yet did not, the skill with which they depicted figures in relief and the clumsiness of those carved in the round and seated at the tomb-end in a niche; and then of the painters, their mediums, varnishes, disregard of the lines left for their guidance by the sculptor, careful effacement of work already done by the sculptor and substitution of painting in its place, the way in which labour was done over and over again, as for example, a first outline by the draftsman effaced by the sculptor, then the sculptor's outline effaced by the thick gesso, and finally another outline drawn by the painter; all these points are worthy of close attention, but in regarding these details, the decorations of the temples, as well as of the tombs, must be taken together. How sufficient light was obtained to do very much of the work is to me a mystery. Very much could be done with reflectors, but in many cases the distances are too great from the source of light. I cannot think that lamps, simple wicks floating in oil, were enough. The temperature and the smoke would have made such working impossible.

No explanation that I have yet heard satisfies me. It remains as much a mystery as does the lifting of the great stones.

III.—*On the Roman town of Doclea, in Montenegro.* *By* J. A. R. Munro, *Esq.*, *M.A.*, *F.S.A.*; W. C. F. Anderson, *Esq.*, *M.A.*; J. G. Milne, *Esq.*, *M.A.*; *and* F. Haverfield, *Esq.*, *M.A.*, *F.S.A.*

Read June 14, 1894.

The following pages present the results of an expedition organised in the autumn of 1893 for the purpose of investigating the antiquities of the Roman town of Doclea, in Montenegro, the reputed birthplace of Diocletian. Excavations had already been carried on there during three seasons by H.H. the Prince of Montenegro, to whom the explorers desire to record their grateful acknowledgments, not only for his gracious permission to continue the work so auspiciously begun, but also for the kind reception and many facilities accorded to them. To M. Paul Rovinski also, the skilful director of the former excavations, they owe the warmest thanks. His generous co-operation and his local experience were simply invaluable, and his genial friendship can never be forgotten.

The account of the work is distributed as follows:

Part I. Doclea.
- § 1. The environs of Doclea.
- § 2. Topography of the town.
- § 3. The history of Doclea.

} By J. A. R. Munro.

Part II. Buildings recently excavated.
- § 1. The temples
- § 2. The large church.

} By W. C. F. Anderson.

- § 3. The small church. By J. G. Milne.

Part III. The inscriptions. By F. Haverfield and J. A. R. Munro.

PART I.

§ 1. The environs of Doclea.

At the innermost nook of the great plain that lies to the north of the Lake of Scutari two rivers emerge from the hills, the Morača flowing from the north-east, and the Zeta from the north-west. The rivers unite, and their joint stream, which keeps the name Morača, passes along the foot of the low bare ridge that bounds this corner of the plain on the west, down to the town of Podgorica about two miles below the junction, and so onwards to the distant lake. Between the two rivers, forming the base of a triangle to their apex, the naked limestone hills of the Piperi highlands rise abruptly from the flat. From them descends a torrent, dry in the summer time save during heavy rains, and after following on a smaller curve a course roughly parallel to the Morača, issues into the Zeta a few hundred yards above the confluence of the rivers.

The traveller from Podgorica towards Nikšić by the high road up the right bank of the Zeta can hardly fail to notice on the opposite side between the Morača and the mouth of the torrent a tract of rough level ground encumbered with heaps of stones and shimmering white ruins. It is the site of the Roman Doclea. The name survives in the modern Dukle, but there is not even a village to claim it, only a few scattered cottages on or about the site, and a large house and mill by the roadside. Should our traveller wish to visit the ancient town, he must proceed past it as far as the mill-house, and cross the fine new bridge over the Zeta. Turning back along the other bank, he will come first upon an ancient cemetery, which has been partially excavated. A group of little round stone urns, each with its circular lid, stands ranged on a large block like pots on a stove. Half a dozen epitaphs inscribed on small panelled stones may be found by searching, and a few paces further down the path lies a broken sarcophagus of the big-eared type so common at Salona. The path turns to the left away from the Zeta, and descends to a recently constructed bridge over the torrent-bed. The bridge is built almost entirely of ancient fragments, columns, bases, bits of cornice, and carved stones. Up the opposite slope a line of inscribed blocks, forming a parapet to the roadway, extends from the bridge to a gap in the town walls. These blocks and many of the fragments in the bridge were derived from the wreck of a great gate, which once occupied the gap. The gate itself seems to have been built of material collected from all quarters of the site, perhaps hastily put together to meet a barbarian invasion in the last days of Doclea.

The ancient town (see plan, Plate IV.) is of irregular shape, lying east and west, with a length very much greater than its breadth. The situation is a strong one, in spite of the level ground. The south side is defended by the Morača, the west by the Zeta, and the north by the gulley of the torrent. All three streams flow in deep rocky beds between overhanging walls of conglomerate strata. In very few places is the water accessible from above, and although the torrent is an uncertain defence, the rivers are broad, swift, and deep. There is only one ford, at a point on the Morača near the middle of the south side of the town, and it is quite impassable except when the river is low. The best proof of the natural strength of the river faces of the site is that there is no trace of fortification along them. The massive wall which covers the north and east sides ends at the one extremity on the Zeta, at the other on the Morača. The east face is the weakest, but it is also the shortest, and has been most carefully fortified. The wall here runs across to the cañon of the Morača from an elbow in the torrent's course, where. having spent the impetus of its descent from the hills, it turns westward to join the Zeta. Between these two points a broad ditch or moat has been dug outside the wall, completing the isolation of the peninsula.

Large portions of the walls are still standing, especially the east wall and eastern half of the north wall. They are solidly built of a thick rubble core with a facing of small square blocks laid in regular courses. At rare intervals are traces of projecting rectangular towers. Besides the west gate there must have been a gate near the north-east corner, but its existence has rather to be inferred from the roads inside and outside the walls than demonstrated by actual remains. There is, it is true, a gap in the north wall at the right place, but it is so ruinous and jagged that by itself it would prove nothing. From this gap a narrow but direct and unimpeded lane leads through the ruins of the ancient town down to the ford on the Morača. The lane may well represent an ancient street narrowed by the *débris* of the buildings on each side. Outside the walls a track runs eastwards between the roots of the hills and the river. It has quite the character of a Roman road, and is lined with fragments from sepulchral monuments. About half a mile out of Doclea in particular there is an old grave-yard just under the hill, where among innumerable ancient fragments of all kinds is a large collection of sarcophagus lids. But the best evidence is a Roman bridge on the Morača, about a mile above the ancient town. It was once a fine structure of six arches, and is still impressive although nothing is standing but the piers and abutments. The river is here hemmed by high rocks, and flows in one concentrated sweep under the right bank. The northernmost arch had a span of not less than fifty feet. This bridge must have been the main means of communication between

Doclea and the country to the south and east, and we cannot suppose that all the traffic was sent round to the west gate, even were it possible to carry a road along between the north wall of the town and the torrent. We are compelled therefore to regard the gap near the north-east corner as a second gate, although it cannot have been a very large one.

The bridge and gate have some bearing on the problem of the Roman road from Scodra to Narona. Mr. Arthur Evans has fully discussed the course of this road in his *Antiquarian Researches in Illyricum*.[a] I have not the necessary local knowledge to carry that discussion any farther. All that I know of the country is in favour of Mr. Evans' general hypothesis, and it may be added that the assignment of the Docleates to the *conventus* of Narona[b] seems to postulate some fairly direct communication. Only, on the one hand, I find it difficult to believe that, if there was already a Roman bridge over the Morača just above Doclea, the road crossed the river just below at Podgorica; and on the other hand, if the road crossed by that bridge and passed through the town, it becomes more than ever inexplicable that Doclea is not mentioned in the Itinerary and Tabula. Is it possible that the Roman road crossed the Morača several miles below Podgorica, and followed the valley of the Sitnica, so as to strike the Zeta at Spuž and cut off the bend by Dukle?

From Dukle up to Spuž the Zeta is closely hemmed by the hills, but at Spuž the valley opens out into the level plain of Bjelopavlic; a broad fertile flat, broken only by a row of rocky crests which rise at intervals in the middle. The old fortress of Spuž crowns the southernmost of these crests, and commands at once the passage of the river by the quaint narrow bridge at the base of the rock, and the defile towards Dukle. In the side of one of the crests above Spuž are the quarries which supplied Doclea with its best building stone.

The Morača valley is for the most part a mere rift in the mountains, too narrow even for a road. A hasty ride down the lower part of it failed to reveal any ancient traces.

In the great plain it is otherwise. Right across it, from the Ribnica about due east of Podgorica nearly up to Doclea, an attentive eye can follow the line of a subterranean aqueduct. The Ribnica, a tributary of the Morača, springs full grown from the mountain side. The aqueduct crossed it near its source on a bridge, of which the rubble core of the abutments on each bank is still standing. The water was drawn, M. Rovinski informed me, from the Cijevna, some distance beyond. The reason why the Roman engineers could not utilize the water of the

[a] Pt. ii. pp. 79 *sq.*

[b] Pliny, N. H. iii. 143.

Ribnica is plain enough. The bed of the stream lies below the level of the undulations of the plain. To get a flow of water, a source higher up the hillside had to be tapped, and this made it necessary to go beyond the Ribnica to the Cijevna. We had a section of the aqueduct cleared at a point in the plain where the vault had collapsed. It is an arched channel about $4\frac{1}{2}$ feet high by about $2\frac{1}{2}$ wide, built of rubble and lined with fine cement. The earth thrown out when the trench was cut still shows as a faint ripple on the surface of the ground. The popular story says that the aqueduct was carried over the Morača to Doclea on the Roman bridge above the town. It is doubtless this tradition which has led to the myth of "massive remains of an aqueduct"[a] at Doclea. But the story cannot be accepted; for firstly, the aqueduct does not make for the bridge, but rather for the ford; secondly, the Morača is itself an aqueduct for Doclea, and its water is highly esteemed by the natives; thirdly, were water wanted for Doclea, it could be brought by a shorter route and with less trouble from the Piperi hills on the same side of the river. The aqueduct does not reach so far as the Morača, and its destination must be sought on the south bank.

Opposite to the ancient town there is a small tumulus, and tombs are sometimes discovered. A low ridge in the ground, possibly an ancient road, runs from near the ford towards the hamlet of Zlatica at the foot of the eastern hills. Here there are remains of two churches, one standing in skeleton, the other beside it almost obliterated. Among the *débris* of the latter is some Roman brickwork, a couple of large slabs with ornamental carving, like those found in the Christian basilica at Doclea, and several inscriptions.[b]

Zlatica lies close under the mountains, at the foot of the steep pass that leads from the Podgorica plain directly into the eastern corner of Montenegro. The top of the pass is commanded by the ruined fortress of Medun. Whatever the date of the present castle, there was an Illyrian hill-fort here before the Roman conquest. Medun is Livy's *Medeon*,[c] where the family of King Gentius surrendered to the legate Perperna. On a lower ridge under the castled crag are some remains of a large fortified enclosure of polygonal masonry. Similar walls exist, I believe, at Scutari, Alessio, and elsewhere, samples of which are figured in Hahn's *Albanesische Studien*, p. 122. I bought from a villager of Medun, who

[a] Quoted by Mr. Evans from Kovalevski, *Antiquarian Researches*, p. 85, note.

[b] Mr. Milne did a day's experimental digging on this site after the close of our work at Doclea. He reports that there are about 2 yards of earth above the floor. Probably the church could be cleared for £50, and several more inscriptions recovered. The materials seem to have been brought from Doclea, which is only an hour's walk distant.

[c] Livy, xliv. 23, 32. Polybius, xxix. 2.

had found them in his field, two copper coins of Scodra, which Professor Gardner has deciphered as follows:

(1)[a] Obv. Head of Zeus. Rev. ΔPI . Galley: below it, dolphin.
(2)[b] Obv. Head of Zeus. Rev. ΑΛΛ | ΣΚΟΔΡΕΙ | ΝΩΝ. Galley?

§ 2. Topography of the town.

The internal topography of Doclea will be best described if we start from the west gate and follow the broad grassy way which runs eastwards from this point until it meets the cross lane from the north-east gate at right angles. The broad way has been cleared and levelled by M. Rovinski during his three seasons of work on the site, but there can be little doubt that it fairly represents the course of the main street of the town. Along it extends on each side a line of important buildings.

Of the gate itself little now remains. To the left, as one enters, there is a strong wall, built, not of rubble with a facing of small stones, but of large squared blocks. On the right, between the roadway and a flanking tower, are scanty remains of a thick wall, which seems to have been chiefly composed of fragments of worked stones loosely put together with a little mortar. Two or three large blocks projecting at the roadside indicate the position of the gate. We did a little digging on both sides in the hope of finding some more inscriptions, but only unearthed one fragment.

A few paces inside the gate stands a low isolated block of concrete, which from its shape and size may have been the base of an equestrian statue. Hard by, but probably not *in situ*, lie some carved cornice blocks from a large building. A little farther in to the south is the groundwork of a small temple (A on plan, plate IV), probably a temple of Roma, and beside it stands one of its gleaming white columns, a conspicuous object from all parts of the site. East of the temple follows a complex of chambers more or less closely connected with one another, which can scarcely be anything but a magnificent private dwelling (B on plan). The area covered is a large one. Near the centre is a small ornamental garden, round which the rooms of the house are ranged on three sides. The other half of the space is occupied by an open court, or pleasure ground, at one

[a] Cf. Brit. Mus. Catalogue, Thessaly, Pl. xxxi. 14.
[b] Compare *Numismatic Chronicle*, 1880, Pl. xiii. 2.

end of which is the foundation of a grotto or fountain. Still east of this palatial residence is a second small temple (C on plan) of which there are sufficient remains to afford material for a fairly complete restoration. Interesting fragments are the bust of Diana, sculptured in high relief on the east pediment, and the pair of large flat dolphins which formed the balustrade on each side of the front steps.

Beyond this temple on the same side of the street lies an extensive group of connected buildings, in which we may recognise the public baths of the town (E on plan). There are not only hot and cold rooms, a plunge bath, and other conveniences for which one would now look in vain throughout the land, but gymnasia, open courts, covered walks, and suites of chambers, large and small; in fact, a complete palace of luxury. Opposite to the baths, on the north side of the way, is a large quadrangle fenced from the street by a simple wall, in the middle of which is the main entrance. The west side of the enclosure is occupied by the most important building in Doclea, the great civil basilica (D on plan). The north and east sides are formed by rows of shops opening on to the central square. In the centre of the north side facing the gateway in the south wall is a raised podium with a mosaic floor, perhaps an exedra. There can be little doubt that this square represents the forum of the ancient town, but it must be noted that the rows of shops along the north and east sides are, at least as we now see them, of very late date. The shops are in fact largely constructed of fragments from the ruins of the basilica, and it is not difficult to identify pieces of the cornice and architrave converted into door-posts and thresholds. The basilica is better preserved than might have been expected, and there are ample materials for a complete reconstruction. We understand that Dr. Jelić, who devoted a fortnight to the study of the building, will shortly publish a full account of it with detailed plans and drawings.[a] Here, therefore, the briefest notice will suffice. The building lies north and south, with its apse to the north. The principal front faces eastwards to the forum. It was adorned with a fine colonnade constructed entirely of the beautiful white Spuž stone. None of the columns are now left, but a number of large fluted fragments, some standing in front of the palace of Krušna Glavica, near Podgorica, others built into the bridge over the torrent, may be confidently referred to this basilica. The pilaster bases are still *in situ*, engaged in a back wall of excellent brickwork. The south end of the building looking on to the street is of the usual small blocks of local stone, with a moulded sill course of white stone for a row of windows about five feet from the

[a] See also M. A. Gérard in the *Revue archéologique*, 1890, pp. 434-7.

ground. The west and north walls are of similar plain construction. The apse is the only feature in the latter, and the former is broken only by two doors and a line of pilaster buttresses for the support of the roof. The street entrance is at the south-east corner in a line with the colonnade. Immediately to the left a door opens on to the narthex, and there were three more doors in the east wall The internal plan is interesting; the general form is basilican, but there seem to have been no aisles. We could see no stylobate for any columns but the two enormous pairs which divided the north and south ends from the main body of the nave. There may, however, have been arcades of engaged arches along the side walls. The northern end is a separate chamber, connected with the nave by a broad central doorway, and lighted by windows in the east wall. The excellent style and execution of the basilica, and the inscriptions on the architrave, alike point to an early date. It is natural to refer the building to the first years of the municipal existence of Doclea under the Flavian emperors.

Between the basilica and the west gate there is little to notice on the north side of the road. Faint traces of building, and a semicircular foundation about midway between the two, may suggest a long portico, but they may be deceptive, and nothing can be said to be certain without excavation. It is otherwise to the east of the Forum. Between the south-east corner of the quadrangle and the cross lane lies what may once have been a considerable building (E on plan). It seems to have had a portico front on the street, with many small chambers behind. A well-made cemented water-channel passes along the front, and at a short distance to the back is a ruinous platform with a bit of mosaic floor. The front part was laid bare by us, but the whole building proved to be in such poor preservation, that it did not seem worth while to complete the excavation.

Opposite to this portico, in the gap between the lane and the baths, there is a small grassy patch rising to a mound at its southern end. The mound was the site of another of our experiments which, had time permitted, might have been carried farther. It covered a curious group of short, thick, parallel walls, one set arranged north and south, another set at right angles to these, east and west. The walls are divided by deep, narrow passages. (G on plan.) Between them were found large pieces of a thick rubble and cement floor paved with flagstones, which must have overlain the whole basement. On the brink of the northern slope is a large corner fragment with remnants of marble lining still projecting from its edges. The fragment might suggest, what is quite possible, that the building is related to the neighbouring baths. A maize field which intervenes is said to have been paved with stone slabs, dug out and removed within living memory.

A little to the south, between the mound and the Morača, stands an isolated building in the middle of a field. It was here that we began our operations. Before it was excavated the site looked promising enough, a well-defined heap of *débris* from which protruded three biggish columns, but the building proved to be more singular than interesting. Only the eastern half was excavated. It is an oblong divided into two nearly equal chambers with a door between them. (H on plan.) The walls are standing to a height of about three feet, except for one higher fragment in the west side. There is no entrance. Rude steps lead down into each room at its south-east corner. The columns are merely stumps set on end on the ground, perhaps to support a roof or floor.

The north-western quarter of the site presents few interesting features. It is comparatively clear and level ground, mapped out into patches of maize-field and pasture. There is also a stretch of fairly open ground on the south side of the main street along the bank of the Zeta; but for the most part the south-western region is one complicated tract of ruins, a wilderness of walls and heaps of stones, piled confusedly together and thickly overgrown with brambles. Large blocks are rare, and it is scarcely possible to trace the outlines of the buildings. The stones have been piled up into dykes and mounds to make room for scanty plots of cultivation or of hay. The most attractive site lies near the Morača, about midway between the ford and the confluence of the rivers. It is marked by a slight rise, some fragments of wall, and several large blocks of cornice, etc. For the rest one heap of stones looks about as good as another.

There remains the eastern part of the site beyond the cross lane. This quarter has a character between those of the two regions just described. It is neither so featureless as the north-west, nor so hopelessly encumbered as the south-west. The most prominent object is a high piece of ivy-covered wall, which shelters a cottage and little kitchen garden. A few yards to the west of this wall was a piece of rough hummocky ground, where lay a carved capital and several fragments of columns. M. Rovinski remembered the tradition of a mosaic pavement having been discovered hereabouts. We started digging, and laid bare the large Christian basilica. (K on plan.) My attention had been attracted by some large blocks peeping through a clump of undergrowth a little to the south of the church. As soon as men could be spared, we extended our operations to this site, and discovered the massively built little church. (I on plan.)

Although Doclea was an episcopal see, the Christian antiquities of the site were hitherto limited to the famous Podgorica vase, a glass vessel engraved with scenes from the Bible and highly interesting explanatory inscriptions in the local

dialect of Latin. We can now point to two early churches, the larger of which must surely have been the cathedral church of the bishopric.

The rest of the eastern half of the site has never been touched by excavation, and calls for no special notice.

A few remarks may be made on the character of the site in general. The type of construction is very constant, and varies little in the earliest and the latest buildings. The civil basilica, a great public building of the prosperous Flavian period, is naturally better built than the Christian basilica of about the sixth century. The masonry of the city walls is more regular and better laid than the courses of a private house. But the materials and methods are the same throughout. The walls are built of small, roughly squared blocks of the local limestone, laid in courses with mortar. They were no doubt plastered in most cases, or covered with fine stucco and decorated with colour. The stone is a good hard material, and may be had for the lifting close up to the gates of the town. Brickwork is rare. There are some excellent pieces in the east wall of the civil basilica, and brick is used for arching the stoke-holes of the furnaces in the baths and elsewhere. But evidently stone was cheaper and more popular. There are a few slight remnants of thin marble facing, especially in the temple of Diana and in the plunge bath. Marble must have been a costly material, which had to be brought from a distance. For decorative purposes, such as the east front of the basilica, carved work, inscribed bases, and the like, and for thresholds, door-posts, lintels, paving, and steps, the favourite material was a very fine white limestone, derived from the quarries beyond Spuž. This is a magnificent building stone, which withstands the weather well, and tones to a rich golden hue. In general effect it resembles a finer kind of travertine, but has a more compact crystalline structure, coming very near to marble in the best specimens. If many of the inscriptions of Doclea are hard to read, it is not by fault of the material, but because they have been purposely defaced. The roofs were of tiles, a layer of which is always to be found between the wreck of the outer walls and the floor.

From the archaeologist's point of view Doclea has two great drawbacks. In the first place the town has been ruthlessly rebuilt. Probably some destructive catastrophe befell it a century or two before its end. Few of the buildings have escaped a more or less complete reconstruction. Those which, like the great basilica, were too solidly constructed to be destroyed, and too expensive to be restored, served as quarries to the impoverished inhabitants. The small church and the later erections in the forum were built largely out of the materials of the

basilica. Inscribed bases were freely used for building. They must have formed a large proportion of the stones of the western gateway, and occur sporadically in other buildings, probably far removed from their original position. Everywhere doors have been opened or blocked up, and walls have been patched or pulled about. The reconstruction of the forum is especially to be regretted, but we may be thankful that the basilica and temples were not seriously tampered with. It is, I think, much more likely that the destruction of the public buildings was wrought by earthquake than by a barbarian raid, and the great earthquake of A.D. 518 offers an extremely probable occasion. The site is to the present day exploited by the population of the neighbourhood for large stones. The block on which were recorded the honours held by M. Flavius Fronto in the chief cities of southern Dalmatia, the most important inscription hitherto discovered at Doclea, has disappeared. I myself found a pious person carving a cross for a tombstone out of one of the blocks from the temple of Roma. The eastern cemetery is full of architectural pieces from the site, and I have no doubt that many more would be discovered in the ruins of the large church at Zlatica.

Secondly, beyond the "fixtures" of the ancient town, buildings and inscriptions, antiquities are scarcely to be found. Sculpture is represented only by the busts of Diana and Roma carved in high relief on the tympana of their temples, and by one small fragment. One terracotta figure, now in the possession of His Highness the Prince, was discovered in the baths. Copper coins are plentiful, engraved gems are sometimes picked up by the peasants in the maize fields, and a certain number of small objects of bronze, iron, lead, bone, etc. turn up in the diggings. The pottery and glass are fragmentary and of no interest. The famous Podgorica vase must have come out of a tomb. We found nothing which calls for any special notice. It would seem that the inhabitants must have fled before the invaders and taken most of their property with them. At all events the barbarians and later scratchers have picked the bones of Doclea very clean.

Against these drawbacks must be set certain advantages. The site is not deeply buried and is practically uninhabited. Excavation is consequently easy and rapid. The walls of the houses are often visible on the surface, and there is no great accumulation of earth above the floors. The buildings, although mostly cut off at a height of from 3 to 6 feet from the ground, are unusually complete, and remain much as they were left. The site therefore, so far as it has been cleared, presents a picture to which it would not be easy to find a parallel of the ground work of a provincial town in the time of Justinian.

This picture then is the first claim of Doclea to our interest. A second is the

information to be derived from the numerous inscriptions as to the history of the Roman province, the condition of the country, and the great Diocletian myth. A third claim is the addition made by the two churches to our knowledge of the Christian antiquities, and the light thrown by the traditions of the see of Doclea on the ecclesiastical history, of Southern Dalmatia.

§ 3. The history of Doclea.

Doclea was in ancient times the urban centre of an Illyrian tribe, the Docleates. They first appear in history among the peoples reduced by Augustus in his Illyrian War in B.C. 35, and compelled to pay arrears of tribute.[a] It is probable that they came under the Roman power in B.C. 168, after the war with Gentius, and that the tribute was that half of the old royal tribute, which the Romans continued to exact.[b]

The Docleates, Pliny tells us,[c] were one of the tribes who resorted to the *conventus* of Narona. They were divided into thirty-three *decuriae*. The nature of these *decuriae* is obscure. They appear to be a division common to all the Illyrian tribes, but their number varies enormously. The Delmatae, for example, have 342 *decuriae*, and the Mazaei 269, whereas the Duersi have only 17, and the Deretini 14. We may infer from an inscription of Salonae[d] that the *decuriae* had a regular organisation, and each a common chest or treasury. Mr. W. W. Fowler[e] conjectures that they may have been an artificial expedient invented by the Roman Government to meet the necessities of a backward people. I am rather inclined to believe that they represent a native gentile division adopted by the Romans for administrative purposes, in default of a better. The number of *decuriae* seems casual and unsymmetrical, and is not, so far as one can see, proportionate to the strength and importance of the tribes. Moreover, all analogies from their methods in similar cases would lead us to suppose that the Romans adapted an existing institution rather than inaugurated a new system. Probably the old Illyrian organisation was not unlike the present Slavonic one in the same region. The Docleates would be analagous to the Kuči or the Vasojevici, the *decuriae* to some such smaller unit as the modern *plemen*.

Doclea probably grew up gradually. The site is equally well adapted for traffic and for defence, and would naturally become at once the refuge and the market of the district. The position of the town is strong, and yet the ground is

[a] *Appian, Illyr.* 16. [b] *Livy*, xlv. 26.
[c] *Nat. Hist.* iii. 143. [d] C. I. L. III. 2107. [e] *Classical Review*, viii. 11.

perfectly level and easy. Here the shepherds of the hills could conveniently meet the tillers of the plain, and exchange their stock and dairy produce for grain and fruit, just as they do now at Podgorica. The evidence of the coins seems to show that there was little external trade. Mr. Milne informs me that almost all the coins of the lower empire are of the Siscia mint. But the Docleate cheese was famous, even at Rome.[a]

Doclea is first mentioned in literature by Ptolemy,[b] among the inland cities of Dalmatia, but the inscriptions prove that the town received municipal rights half a century earlier. The tribe Quirina, and the prevalence of the name Flavius in the earliest no less than the latest inscriptions (about one in three of the persons mentioned is a Flavius or Flavia), indicate, as M. Cagnat[c] has already pointed out, that the town acquired its privileges from one of the Flavian emperors. It is, I think, possible to go a step farther in defining the date. No less than six of the inscriptions of Doclea refer to one M. Flavius Fronto and his family. These inscriptions are the most pretentious hitherto discovered on the site. From their style and lettering they cannot be dated later than the end of the first century or early years of the second. Three of them are engraved on the architrave of the basilica in the forum, the most important building in Doclea. Two were discovered in the pavement of the same building, inscribed on slabs which may have formed the front face of a statue-base. The sixth was on a large block, probably a base, which has disappeared from the site. The family was evidently the most influential in Doclea, and the great basilica seems to have been little else than a monument to its glory. We gather the following facts from the inscriptions. Marcus Flavius Fronto was the son of Titus Flavius. He had a long list of distinctions: he was *sacerdos* in the colonies of Narona and Epidaurus, *duovir jure dicundo* of Julium Risinium, *duovir quinquennalis* and *pontifex* in the colony of Scodra, *duovir jure dicundo quinquennalis*, *pontifex*, and *flamen* of a deceased emperor[d] in Doclea, and a *praefectus* of some sort, possibly *praefectus fabrum*. His wife's name was Flavia Tertulla. Their son, Marcus Flavius Balbinus, died at the age of fifteen. The *ordo Docleatium* decreed him a public funeral, all the municipal *honores*, and an equestrian statue, which his parents had gilded at their own expense.

Now it is probable that Titus Flavius, the father of Flavius Fronto, assumed

[a] Pliny, *Nat. Hist.* xi. 240. [b] *Geogr.* ii. 16, 7.

[c] *Comptes-rendus de l' Académie des inscriptions*, 1890. *Mémoires de la Société Nationale des Antiquaires de France*, 1893.

[d] Probably Titus, see Part III. note on No. 26.

his imperial Roman name at the time when Doclea acquired its privileges, and he was enrolled in the *tribus Quirina*. Similarly the name Flavia Tertulla is directly borrowed from the imperial family. The grandmother of Vespasian and the first wife of Titus both bore the name Tertulla. But if the parents of Flavius Fronto and Flavia Tertulla had already adopted Roman names, we should expect the enfranchisement of Doclea to fall in the earlier years of the Flavian dynasty, in the reign of Vespasian rather than of Domitian. This inference is confirmed by the earliest dateable inscription of Doclea, which records a dedication *Divo Tito*, by one Lucius Flavius Epidianus, *quattuorvir jure dicundo quinquennalis, ob honorem*. Doclea, therefore, received its rights before the death of Titus. If we could argue from the silence of Pliny that it had not received them at the time of the publication of the Natural History, the date would be narrowed down to the four years 77 to 81 B.C. But it is not safe to assume that Pliny's information was brought up to date, especially in reference to Dalmatia.

The promotion of Doclea marks, as M. Cagnat points out, a stage in the progress of Roman civilisation in Illyria. The coast towns owed their privileges to Julius, Augustus, or Claudius. Vespasian withdrew the legions from the province, and it is natural to find that Doclea and Scodra, which lie in the first great valley parallel to the coast, received the one municipal rights, the other the dignity of a colony, at about the same time. The remoter inland towns, such as the municipium of Splonum (?), did not attain to Roman organisation until the time of Hadrian and the Antonines.

In the institutions of Doclea the only interesting feature is the occurrence of both *quattuorviri* and *duoviri*. L. Flavius Epidianus is *quattuorvir jure dicundo quinquennalis*. M. Flavius Fronto is *duovir jure dicundo quinquennalis*, and one T. Flavius Verecundus Thamarianus, on another inscription of about the same date, is *duovir jure dicundo*. There is no hint that Doclea became a colony. On the contrary, the official designation of the community is always simply *respublica Docleatium*. It is not very rare to find both titles, even in towns which never rose above municipal rank. Marquardt quotes a number of cases from Italy, and it would not be difficult to collect a long list from the provinces. Possibly the *quattuorvirate* did not last long at Doclea. Possibly, as in Spain at about the same date, the change to *duoviri* was coincident with the bestowal of Latin rights. In any case, the tendency towards uniformity of organisation would tell in favour of the change. Although *quattuorviri* are found at the colonies Aequum, Narona, and Salonae, there is no parallel to their existence in a Dalmatian municipium. As M. Cagnat observes, *duoviri* are there the universal rule.

But although Doclea never attained to the dignity of a Roman colony, the town has a probable title to another distinction no less illustrious. An inscription found in the large church (No. 64) records a dedication by one of the decurions who was *sacerdos ad aram Caesaris*. Nowhere else in Dalmatia proper has any mention of an *ara Caesaris* yet been discovered. Liburnia had its own altar and priesthood of Augustus at Scardona.[a] These facts, taken together with the large number of dedications to emperors among the inscriptions, make it extremely probable that, as Dr. Hirschfeld has suggested, Doclea was the seat of the imperial worship for southern Dalmatia.

It is as the reputed birthplace of the emperor Diocletian that Doclea claims some small share in historical interest. What little we know of the history of the town may be appropriately grouped round that central point. It is universally admitted that Diocletian was a Dalmatian, but we should naturally infer from the language of most of our authorities, and from the fact that he retired thither on laying down his power, that he was born near Salonae. His supposed connection with Doclea rests upon a statement in the Epitome of Aurelius Victor (XXXIX.) that Diocletian was "*matre pariter atque oppido nomine Dioclea*" and until he became emperor was called Diocles, but then changed his name to the Roman model. The story sounds improbable in itself. The name Diocletianus suggests adoption or emancipation, and one is tempted to suspect that some confusion, in which the word *metropolis* played its part, may underlie the "*matre pariter atque oppido.*" It is a far cry from Doclea to Diocletianus, and Gibbon's rhetoric does not render the derivation any more plausible. "The town," he says, "seems to have been properly called Doclia, ... and the original name of the fortunate slave was probably Docles: he first lengthened it to the Grecian harmony of Diocles, and at length to the Roman majesty of Diocletianus." Here it will be observed that the change from Docles to Diocles blunts the point of the story, that Doclea gives the adjective Docleas not Docles, and that the poor mother Dioclea is entirely ignored! But there is a more specious line of argument than Gibbon's. It is incontestable that to the medieval writers from Constantine Porphyrogenitus[b] onwards, Doclea has become Dioclea. An exact parallel to the change may be found in Phrygia,[c] where a town, Dokela, which still keeps its name as Doghla or Dola, had become Graecised into Dioclea,

[a] C. I. L. III. 2810.

[b] *De admin. imp.* cc. 29, 30, 35.

[c] Ramsay, "Cities and Bishoprics of Phrygia," *Journal of Hellenic Studies*, IV. 422-3.

and issued coins so inscribed, in the third century. Farlati[a] produces a bishop of Dioclea in the province of Praevalitana, that is to say a bishop of Doclea, who signs at the Council of Chalcedon in the year 451. And Aurelius Victor carries us back to the middle of the fourth century.[b] May not Doclea, like Dokela, have become Dioclea in the third century?

None of these arguments will stand scrutiny. Let us work back over them.

(1) There is positive evidence that Doclea had not become Dioclea before Diocletian. Not a single inscription ever gives any other form than Doclea, and it so happens that the evidence is most abundant just at the time we want it. The *respublica Docleatium* dedicates inscribed bases in the third century to Severus Alexander, between the years 226 and 235, to the Philippi and Otacilia Severa, A.D. 244, to Gallus, A.D. 252, to Volusianus, A.D. 253, to Valerian, A.D. 254, and to Gallienus, between the years 257 and 270. Of these inscriptions one falls in the year preceding Diocletian's birth, and four others within the next fifteen years. No form but *Docleates* appears on any of them. Clearly Diocletian cannot have got his name from Doclea without a free use of the "Grecian harmony."

(2) Whatever be the date of Aurelius Victor, nothing can be said of the Epitome except that it is later than the accession of Arcadius and Honorius, and that the compiler supplements the "De Caesaribus" from other sources. The passage about the birthplace of Diocletian is a supplement. The first mention of Dioclea that can be dated is in Constantine Porphyrogenitus. On the other hand Doclea is still implied in two letters from Gregory the Great in the year 602 to the bishops of Justiniana Prima and of Scodra about the misconduct of Paulus, bishop of the *Civitas Docleatina*.[c]

(3) Gregory's letters raise a presumption against Farlati's bishop of Dioclea in 451. In spite of the marginal note "Praevalitana" in the Venetian Codex of the Acts of the Council of Chalcedon, I believe that Dioclea in Phrygia is meant. In the first place very few western bishops attended the Council, and it would be strange if the distant Dalmatian town were represented, and the neighbouring Phrygian bishop absent. Secondly, the bishop bears the thoroughly Greek name of Εὔανδρος. Thirdly he signs among a number of other Phrygian bishops.

(4) The analogy of the change of name in the Phrygian town is misleading.

[a] *Illyricum Sacrum*, vol. vii.

[b] *Cf.* Evans, *Antiquarian Researches*, 84, note b.

[c] *See* Mansi, *Concil.* x. 329-30.

It is natural enough that Dokela should be Graecised into Dioclea in Phrygia. It is not so natural that Doclea should become Dioclea in the Latin Dalmatia. The extent of the Greek culture of Doclea may be estimated by the fact that out of about seventy inscriptions only one, an insignificant tombstone, is in Greek, and by the epitaph set up by Q. Flavius Helenus over his incomparable friend Gordius Maximianus, "*artis gramaticae Graecae peritissimus*," in which Helenus, in spite of his Greek name and the learned instruction of his friend, spells "*gramaticae*" with only one *m*.

There is thus no evidence or probability in favour of the name Dioclea before the tenth century. Constantine Porphyrogenitus, writing in the year 949, is the first dateable authority for the form. But at the same time he tells us that the town no longer existed. To Constantine Dioclea means a district inland of Cattaro and Antivari, in which there is a "waste chester" (*ἐρημόκαστρον*) founded long ago by Diocletian, whence the district derives its name and the inhabitants are called Diocletiani. Here we have got round to the opposite version. Instead of Diocletian being derived from Dioclea, Dioclea is derived from Diocletian. Instead of being the scion of the town, the emperor has become its parent. The one version has probably no more foundation than the other, both rest simply on a confusion of similar names. The intermediate step would be the rise of the form of Dioclea when Doclea was no longer alive to resist it; and Constantine's version, however absurd in fact, has a certain logical superiority over its rival, for it was, no doubt, mainly the contaminating influence of the name Diocletian that produced the form Dioclea. In stubborn protest against both alike the old Doclea remains to the present day Dukle, and the inhabitants of its "ager" call themselves Dukljani.

But we have not yet quite done with the Diocletian myth. If I read the Dalmatian historians aright, it had curious and far-reaching consequences in the middle ages. The confusion seems to me to have extended beyond names to places and facts. What really belonged to Spalato, the true birthplace and foundation of Diocletian, was transferred with the name Dioclea to Doclea. Thus it was that the archbishopric of Salonae or Spalato was confronted with a shadowy double of itself at Doclea, which plays an important part in the ecclesiastical squabbles of the time. It is in vain that the Spalatines profess themselves the one and only metropolitans of Dalmatia; they are always rebutted by the spectral archbishopric of Dioclea. The mythical rights of Dioclea are claimed on the one part by the church of Antivari, on the other by that of Ragusa. Antivari, as the capital of the district, arrogates to herself the title of the *civitas Diocletana*, her

church becomes the *ecclesia Diocletana*, and she pretends, as may be read in the pages of the anonymous Presbyter,[a] to be actually the old Doclea or Dioclea, rebuilt and re-established as the metropolis of southern Dalmatia by King Suetopelek at the fabulous synod of Delma on the conversion of the Slavs! To the writers of the twelfth and subsequent centuries, such as the Presbyter and John Cinnamus,[b] Dioclea is no longer, as it was to Constantine, a homeless name of a ruined site, but has found a local habitation, not at Doclea, but at the living city of Antivari. There is some evidence that Antivari attained to ecclesiastical independence and archiepiscopal rank soon after the middle of the eleventh century.[c] It was doubtless then that the claim received final sanction and authority. But there is no sound evidence that Doclea was ever an archbishopric. The archbishopric is that of Spalato transplanted by the confusion of names to Doclea, and thence on to Antivari. Similarly the Presbyter maintains that the kings of Dalmatia were crowned, not in the cathedral church of St. Mary at Spalato, but at the unimportant church of St. Mary outside the walls of Antivari.

After the revival of learning this new Dioclea caused a contrary confusion. Ludovicus Tubero for instance, narrating how the sailors of Antivari rendered a service to the Ragusans in their wars with the Slavs, makes them sail out from the lake of Scutari, which he calls the *lacus Lygnistris*, by the river Bojana, which he identifies with the Drilo.[d]

The claim of Antivari to the ghostly rights of Dioclea was not undisputed. The Spalatine Archdeacon Thomas has a much less romantic version of the origin of the archbishopric.[e] According to his account it was instituted simply to save the southern bishops the risks of the voyage to Spalato. The Ragusans contested the pretensions of both Antivari and Spalato. They claimed that on the destruction of Dioclea the archbishop fled to Ragusa and carried all his rights with him. This version is to be explained, I think, by the statement of Constantine, that when Salonae fell into the hands of the barbarians, many of the inhabitants, among them apparently the most eminent ecclesiastics, took refuge at Ragusa. Probably the so-called archbishop of Dioclea was really the metropolitan of Salonae, and the old confusion lies at the root of the story.

The theory here suggested seems to me to furnish some sort of rational explanation of the statements of the later Dalmatian writers. It would also help

[a] The Presbyter of Dioclea, *Regnum Slavorum*, printed in Lucius, *De regno Dalmatiae et Croatiae*, 1666.

[b] V. 17.

[c] *See* Farlati, *Illyricum Sacrum*, vii. 17.

[d] *De Temp. suis.* bk. v. p. 109.

[e] *Hist. Salon.* c. xv.

us to understand how Constantine makes Diocletian the founder of Doclea, and the Epitomist, who puts his birth at Doclea, yet lets him spend his last years at Spalato *in propriis agris*. It is even possible that the Epitomist means by Dioclea nothing else than Spalato. I have already noticed that his *matre pariter atque oppido nomine Dioclea* suggests some misunderstanding of the word μητρόπολις. Thomas the Archdeacon has a curious story which points in the same direction. He tells us that Diocletian assigned the temple of Jupiter, afterwards the cathedral church of St. Mary in Spalato, to his mother to live in, and made the whole province subject to her. We are reminded at once of the mother Dioclea and of the supreme mother-church of Dalmatia.

It is not easy to fix the date of the destruction of Doclea. The letters of Gregory already mentioned show that so late as the year 602 there was still a bishop of the *civitas Docleatina*, and the ecclesiastical organisation of the province was unimpaired. In 639, however, the land was occupied by the pagan Slavs, the Roman population was driven to the coast towns, and the interior was lost to the Church. It is scarcely credible that Doclea can have escaped the fate that overwhelmed her neighbours. There is nothing on the site that need be as late as the seventh century, and we hear no more of Doclea until Constantine mentions it as an ἐρημόκαστρον three hundred years afterwards. The Presbyter's story of its restoration at the time of the conversion of the Slavs, a quite uncertain date, has no authority. It is merely intended to justify the claims of Antivari. The year 639 may therefore be taken as a downward limit. But it may be doubted whether the town existed so long. The coins stop abruptly at Honorius, a fact which plainly points to the devastating march of Alaric at the beginning of the fifth century. Yet the small church, with the inscription of Ausonia which pertains to it, can hardly be earlier than the time of Justinian, and the wholesale rebuilding, of which so many traces remain, seems to imply a restoration. Moreover, it appears more probable that the great civil basilica, which furnished so much of the materials for reconstruction, was ruined by an earthquake such as we know to have visited the region in the year 518, than by a barbarian raid. On the whole I am inclined to believe that Doclea was destroyed by Alaric, but revived to some extent, and maintained a precarious existence down to the year 639. The restoration may probably be ascribed to the revival of prosperity under Justinian, and Gregory's *civitas Docleatina* is more than a mere survival of an ecclesiastical title.

NOTE.

LIST OF COINS FROM DOCLEA, INCLUDING THE COLLECTION IN THE CETINJE MUSEUM.

Greek	3	Maximian	3
Tiberius	1	Maximinus	1
Claudius pierced	1	Constantine	14
Titus	1	Roma	5
Domitian	1	Constantinopolis	2
Trajan	3	Helena	1
Hadrian	3	Fausta	1
Antoninus	4	Licinius	2
Faustina	2	Crispus	2
Commodus	1	Constantine Cæsar	5
Indecipherable, of the period of Antonines.	8	Delmatius	1
Geta	1	Constantius	7
Alexander	3	Constans	5
Gordianus III.	1	Indecipherable, of the Constantinian family.	61
Philip	1	Julian	1
Gallienus	15	Jovian	1
Quintillus	1	Theodosius	11
Claudius Gothicus	10	Gratian	2
Aurelian	5	Valentinian	4
Severina	1	Honorius	1
Probus	3	Indecipherable, of the Theodosian family	15
Carinus	1		224
Numerian	1	Totally defaced	77
Indecipherable, of the latter part of the third century	4		301
Diocletian	2		

All the above I have examined. I hear that there is a gold coin of Honorius in the possession of His Highness the Prince.

J. G. MILNE.

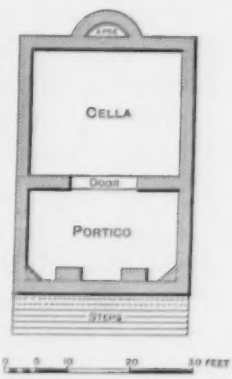
PART II.

§ 1.—The Temples.

The ruins of two temples are the most easily identified buildings on the site. The podium of each stands almost entire, stripped of its coating of slabs of Spuž stone, and surrounded by fragments of capitals, columns, and cornices discovered during the Montenegrin excavations. From these fragments a fairly complete reconstruction is possible.

In the centre of the pediment of each temple was a bust in relief, in the more easterly of Diana, in the western of Minerva or Roma. The latter has been removed to the terrace of the new palace near Podgorica. Both temples are of the Roman Ionic order, and prostyle tetrastyle with an apse. They are almost identical in plan, structure, and size, the proportions of the *cella* being the chief difference; the temple of Diana having a *cella* 30 by 25 Roman feet, while that of Minerva is 30 by 30 feet.

Taking the temple of Diana first, as the remains are somewhat more varied, there are four rows of steps still *in situ*, each with a height of three Roman *palmi* (22 centimetres). Near these steps lie the fragments of two stone dolphins. They formed a balustrade on each side of the steps, as is shown by a series of steps, like the teeth of a saw, in their lower edge, which correspond exactly with the temple steps.



Plan of temple of Diana at Doclea.

Of the temple front, the foundations, with the piers for the four columns, still remain in the podium. A base of one of the columns, part of one of the shafts, and fragments of several capitals, lie scattered at the sides. The base is 49 centimetres in diameter, the column 39 at the top, showing that the columns tapered slightly.

Fragments of the entablature show that it was identical with that of the temple of Minerva. It was surmounted by a band of floral pattern as a frieze. The cornice above the architrave had a plain moulding, whereas the pediment had a cornice with *cymatium* ornamented with a band of palmettes, consoles alternating with rosettes, an egg and dart band, and a leaf pattern. In the centre of the pediment was a bust of Diana carved in relief. The slab which bears it lies in front of the temple steps.

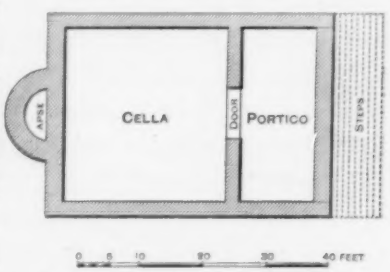
There is nothing to show the character of the inside of the portico. A wide doorway, from which the side posts have been removed, leads into the *cella*. The

floor of the *cella* is of stamped brick, but a vast number of small fragments shows that it was originally covered with slabs of marble and Spuž stone. The walls were also incrusted with marble, red, green, and blue-grey, and there are fragments of a moulded cornice.

The apse seems to be part of the original structure, not a later addition. Neither in it nor elsewhere are there any traces of a cult statue or its base.

The podium wall is of coarse local stone, built in courses of irregular depth. It is two Roman feet (59 centimetres) thick throughout. The floor of the *cella* stood 4 feet above the outside level, the space between the walls being filled up to that height with broken concrete.

The temple of Roma or Minerva is still surrounded by a course of squared blocks of Spuž stone (26 centimetres thick), firmly clamped together with iron. These blocks served as a foundation for the slabs which coated it (9 thick). The walls (3 Roman feet) are thicker than those in the temple of Diana. The steps are of identically the same size (22 high with 26 tread). There are, however, no traces of dolphins having been on the balustrades, which seem to have been formed of plain slabs. Owing, no doubt, to the greater thickness of the walls, there are no piers for the columns in the front wall of the podium. The diameter of the top of a column which has been placed upright near the temple is 515 millimetres, considerably larger than the columns of the temple of Diana. There is a large slab almost uninjured from the architrave, with the entablature and floral frieze mentioned above. Two of the corner pieces and several fragments of the cornice show that it had a plain moulding. The *cella* threshold has been removed, but the bed in which it was laid and part of both side posts are *in situ*. The door was 1·72 metres, almost 6 feet, wide.



Plan of the temple of Minerva, Doclea.

A torso of a figure, considerably less than life size, clad in a *toga* and bearing a cornucopiæ in his left hand, was found near the temple. It is the only piece of sculpture in the round, except a small fragment of a foot, discovered on the site.

On the terrace at the new palace near Podgorica is the central slab of the pediment, with the head of Minerva or Roma in relief, now much defaced. If the *togatus* is the genius of an emperor, or a deified emperor, and belongs to the temple, we may regard it as dedicated to Roma.

§ 2. The Large Church.

Mounds of stone overgrown with thorn marked the site of the larger church. The neighbouring farmers had cleared away most of the smaller walls around to make room for maize plots, and had piled the stones on the ruins of the main building.

After excavation the walls of the church were found standing intact some 3 to 5 feet above the central pavement. They are of rough local stone, built in the same careless fashion as those on the rest of the site.

The church is oriented nearly south-east and north-west, but for convenience we shall speak of it as though it were due east and west.

The plan is basilican, and only differs from the type represented by St. Clement's at Rome in having the court or *atrium* on the south instead of the west side.

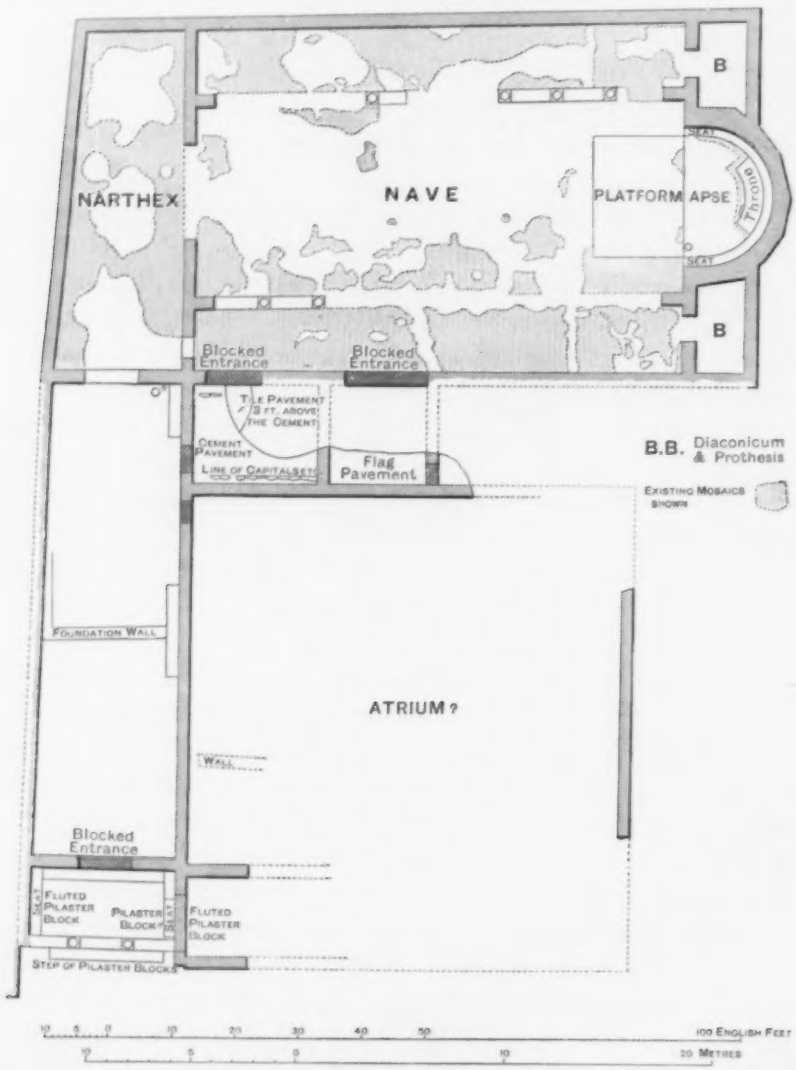
The nave is 80 Roman feet long by 30 wide; the apse 22 feet wide, 15 deep, with a semi-circle 11 feet in radius, the chord being set back 4 feet from the line of the east wall; the aisles are 10 feet wide and open at the east end into two small chambers (the *prothesis* and *diaconicum*); the porch or *narthex* is not symmetrical, the south side, where the main entrance is, being 7 feet longer than the north.

The floor of the apse, the *bema*, is raised some 8 inches above that of the nave. Seats 20 inches wide run round it, with the foundations of a bishop's throne in the centre. The seats have been stripped of their covering slabs and only the rough stone remains. The throne seems to have been at least twice as high as the seats and to have had three steps. Like the rest of the church the *bema* was paved with mosaic, fragments of which remain at the foot of the throne (showing its original breadth) and below the seats on the north side.

Unfortunately there is nothing to show how the apse was separated from the nave, as the edge of the *bema* is broken away. A solitary base of small size at the south angle of the apse may possibly have served as part of the foundation for a screen. That there was a screen seems to be proved by the variety of slabs and uprights found through the church, which as we shall see below belong to three if not four different structures. Of the altar there are no traces, though the fact that the semi-circle of the apse is set back 4 feet from the wall suggests that it stood, as one would expect, in front of the bishop's throne.

In the nave there is a platform about 19 feet wide by 15 feet deep set in front of the *bema*.

This *solea*, to use a convenient term, stands some 2 inches above the floor,



Plan of a Large Church at Doclea.

and from the roughness of its edges may be assumed to have been enclosed by a screen.

On the *solea* there are no traces of an *ambo*, nor of seats. Like the rest of the church it was paved with mosaic, fragments of which still remain.

The aisles were separated from the nave by a row of columns on each side. Six bases, four on the north, two on the south side, remain *in situ*. Between these bases are heavy blocks, some 6 inches thick, placed on the floor between, giving the appearance of a *stylobate*. There were seven columns on each side, placed about 9 feet apart, the intervals between those *in situ* varying several inches from each other.

The intervals between the three central bases on each side must obviously have been larger than those remaining, as there is not sufficient room for two in the central gap on the north side. The bases differ in size from $17\frac{1}{2}$ to $19\frac{1}{2}$ inches and also in style. There are many fragments of the columns, and among these, two are so little injured that their length can be determined approximately. The best preserved lies as it fell, near the base at the east end of the north aisle. It is 9 feet $3\frac{1}{2}$ inches long and cannot have been more than a few inches longer originally. Like the bases, the columns vary in size, *e.g.* the diameter of the top, in three cases, is $13\frac{1}{3}$, 14, and $14\frac{1}{3}$ inches.

The rubbish which filled the floor of the aisles was largely broken clay tiles, presumably from the roof. The column in the north aisle, mentioned above, lay on a stratum of tiles, showing that the roof had fallen in before it was overthrown. There are no signs of either brick or stone arches in the rubbish, nor were any blocks of a size sufficient to span the space between the columns found, so that one may conclude that the roof was supported on timber.

A number of capitals were found scattered over the church. Two of these were of the Romano-Corinthian order, and apparently identical with the capitals from the Pagan Basilica which now stand on the terrace of the new palace near Podgorica. Another is Romano-Ionic. Some are of a very debased Ionic type, of a rude Byzantine style. One of them has a cross inserted between the volutes. Others are square truncated pyramids of the rudimentary "impost" type, described by Messrs. Lethaby and Swainson.[a]

The pavement was of mosaic throughout the nave, that in the south aisle remaining almost intact.

In the west corner of the south aisle a number of large blocks lay scattered. These are gravestones of a late Roman type, one of them has the cippus of Ursus, with sculptured ornament and inscription, the others with rosette and central

[a] *S. Sophia*, p. 251, fig. 53.

flower ornaments. All have been cut down, the parallelogram of the original stone being made almost square, and all were found with the ornamental face downwards. Some of them lay on the mosaic pavement without any rubbish between, the mosaic beneath being absolutely fresh. One is inclined to suppose that they fell from the wall above, or were part of some structure standing near the blocked entrances in the south wall which was overthrown before the rest of the church.

Many gravestone slabs of the same type, a parallelogram panel, with a circular rosette, flower, or diamond ornament in the centre, are to be seen in the old Turkish cemetery outside the city wall, and near the ruined church at Zlatica.

A central door, the threshold of which still remains, though the sideposts are missing, leads from the nave to the narthex. A small door in the south aisle also communicates with it.

The central doorway, as it now stands, is 14 feet 7 inches wide, and the original door if placed symmetrically in the centre, was probably 10 feet wide, allowance being made for the side posts.

The main entrance to the church is in the south wall of the narthex. Its threshold 21 inches wide, 8 feet 5 inches long, and two blocks forming the sidepost of one side still remain. The grooves in the threshold, in which the folding doors slid, show that it was originally 6 feet 6 inches wide. The threshold is similar to many in the pagan buildings of the town, and was no doubt taken from one of them.

Behind the west wall of the narthex are three chambers which have no doors connecting them with any building. A rude stair of three steps leads to the central one, and is obviously of later date than the main building; as also the chambers themselves seem to be. Owing to the mass of stones we were unable to excavate the west front, but judging from the inside, it seems to have been a plain blank wall.

Of the various fragments found scattered throughout the church, the crosses, the ornamented slabs, and the uprights which supported them, the smaller columns and capitals, and the remains of at least three window gratings are all that deserve special mention.

The crosses are roughly cut in local stone, and though all of the same form differ slightly in size. Two are complete. One measures 2 feet by 18 inches.

The several fragments of the broken crosses were found so widely scattered that it would seem that they were purposely destroyed.

The slabs belong to four different sets, distinguished from one another by ornament, thickness, and quality of stone.

The most notable is a fragmentary marble slab with a central six-armed cross surrounded by a circle formed of five cords, with two other interlacing cords above, which spread as tendrils on either side of the cross, and end in ivy leaves. The back of the slab is ornamented with a plain cross, showing that it was intended to be seen from both sides. Its likeness to the slabs in the screen of St. Clement's, Rome, suggests that it was part of the screen of the *solea*.

There are fragments of at least three of these slabs. They were 2 feet $11\frac{1}{4}$ inches high, and probably nearly 6 feet wide, so that two of them with an entrance space between would, as at St. Clement's, fit the front of the *solea* (18 feet).

Several of the marble uprights which supported the screen were found. They are 2 feet $11\frac{1}{4}$ inches high, and the slabs fit exactly into the slots at the side. Their only ornament is a longitudinal countersunk panel on front and back.

The remains of the other three sets of slabs are too fragmentary to admit of any certain restoration. One set ornamented with ivy leaves is thicker than those mentioned above. Uprights with slots of the same thickness were found.

Others have ivy tendrils, a cross inside a circle of rope, and a diaper pattern with crosses in alternate lozenges. Another small fragment has a flower and leaf ornament in vertical panels.

A small column, the same height as the uprights, and several fragments of similar columns obviously belong to one of the screens, possibly the screen of the *bema*, in front of the altar.

Some fragments of columns of the same size, but with spiral fluting, may have belonged to the altar itself.

A solitary column, which is uninjured, and 7 feet 3 inches high, may possibly have been part of a *ciborium*, but as there are no traces of its base or the foundations of the altar this is very doubtful.

Some small capitals, with debased volute surmounted by a truncated pyramid, which is ornamented with a cross, seem to have belonged to something of the kind.

A window grating 4 feet $8\frac{1}{2}$ inches by 2 feet $10\frac{1}{2}$ inches, 5 inches thick, with a diagonal lattice of six bars each way, was found in widely scattered fragments. Fragments of a similar window, and part of a scale-pattern grating (the latter found near the main entrance) also turned up.

It is not difficult to find many analogies at Ravenna and elsewhere for the different floral ornaments, but there seems to be no clue in any of them to suggest

an exact date for the structure, nor is there any marked characteristic in them to show that they are due to western rather than eastern influence. Uprights, capitals, and ornaments of the same style are to be seen built into the walls of mosques in Bithynia.

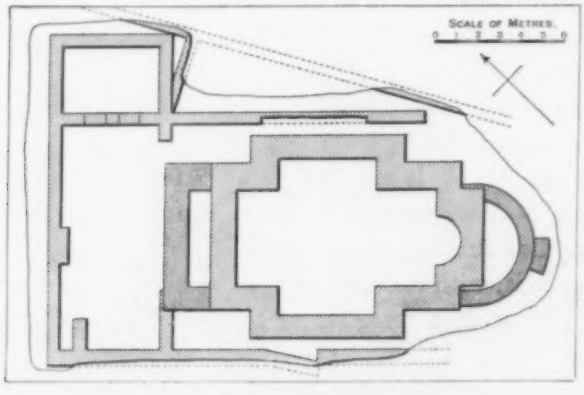
So that for the date one must turn rather to the small church, with its dedicatory inscription, and to the general history of the site as recorded by Mr. Munro.

§ 3. The Small Church.

The small church, as it has been called for want of a better name, lies to the west of the basilica, separated from it and its buildings by a narrow road. Whatever the particular ecclesiastical function of this church may have been, its plan and position seem to separate it from the basilica, and so it may conveniently be treated by itself.

The existing remains are little more than foundations. These, however, are complete, and enable the ground plan of the church and its immediate surroundings to be traced without much doubt.

The original building was in the shape of a Greek cross, with a small apse,



Plan of a Small Church at Doclea.

the extreme internal measurements being: length, 9·4 metres, exclusive of the apse, and 10·5 metres inclusive; breadth, 7·35 metres. It was lengthened by a porch at the west end; the foundation walls of which were carried 3·35 metres further forward. A new and larger external apse was subsequently built unsym-

metrically on to the east end, its centre being ·4 metres south of the main axis of the church. On the north and south the building is enclosed by boundary walls, ·55 metres away from the foundations, and these are carried on at the west end to form a court, 10·7 by 5 metres. To the north of this court lies a second smaller enclosure, 5· by 3·3 metres, which abuts at its north-east angle on the boundary of the road.

The walls of the main building are solidly constructed, 1 to 1·2 metres in thickness, of blocks of limestone, with a core of rough cement. The workmen utilized largely in the foundations the remains of earlier buildings, particularly the great civil basilica; fragments from the architrave and cornice of which are numerous. The north wall is the only one where anything remains which was originally visible above ground. Here the facing is of well-laid limestone blocks, above which comes a second course constructed out of the door and window mouldings of the civil basilica, as shown in the annexed sketch, and used as a base course.

Of the interior nothing is left above the floor level.



Window moulding.
Civil Basilica.



Base-course.
Small Church.

The porch at the west end appears to have been part of the original building. There is a break in the lower foundation course, but the character of the construction and materials used are the same as in the main body of the building.

The external apse at the east end shows a distinct difference. Not only is it unsymmetrically added, but the foundation walls are built of small rough stones, with none of the fragments of earlier buildings found elsewhere in the church, and are laid, without any attempt at joints, in a rough mortar much inferior to that of the other work.

The court in front is surrounded by roughly-built walls which show traces of having been plastered with a fine cement, and is floored with the same material.

The only entrance is in the middle of the front wall, where two steps are preserved, leading down into the court. In the north wall the threshold of the entrance into the second court remains, with a column-base in the middle. This court is similar to the first in respect of walls and floor.

The materials for the restoration of the building are practically none, beyond the foundations. Several small columns were found in the court with a number of capitals and a dedicatory inscription (No. 28). These probably had their place in the west porch.

The approach to the church from the court must have been up a flight of steps. The internal lining of the walls has been removed, but the cement backing shows the level at which the stones began to be laid in regular courses, and it would seem that the floor was not less than 1·2 metres above the level of the court. The flooring of the court ends at a line ·6 metres in front of the existing foundations, and the remains of mortar adhering to these foundations show that there was a course of stones laid against them ·2 metres in height. The church was therefore probably entered by a flight of six steps of ·2 metres.

The court must have been open; there are no traces of any kind to show that it was anything more than an enclosure surrounded by low walls. The smaller enclosure, however, may have been roofed, this is suggested by the column-base on the threshold with which is probably to be connected a broken column found close by, originally about 2 metres in height.

The date of the church can only be roughly conjectured. It must be earlier than 639, and the fragments from the civil basilica built into it may give an anterior date, if, as seems likely, the basilica was overthrown by the earthquake of 518. Between these two dates the building of the church may be placed nearer to the later than the earlier limit.

PART III.

Inscriptions.

The following pages contain all the Roman inscriptions and the solitary Greek inscription found at Dukle and placed on record. The reader is thus provided with a conspectus of the somewhat scanty epigraphic material yielded by the site, which seemed worth giving, because that material is nowhere, not even in the *Corpus*, to be found in one collected whole. A few inscriptions from the neighbourhood of Berane, in the valley of the Lim, have also been incorporated.

The inscriptions have been found at various dates. Three only (Nos. 16, 40, and 42) were known when Mommsen published the third volume of the *Corpus Inscriptionum Latinarum* in 1873; the rest have been added since by the researches of Mr. Rovinski and by the visits of foreign scholars whose names are mentioned below, where their results are quoted. The excavations recorded in the preceding pages added twenty-three more or less perfect inscriptions, besides correcting the readings of previous investigators in some important points.

In the following list the inscriptions are arranged in the same order, speaking generally, as they would be in the *Corpus*. After the dedications to gods (1—3) follow those to emperors (4—18), the inscriptions of the basilica and statues erected in honour of Flavius Balbinus (19—24) and some similar stones, the tombstones (29—62), and some miscellaneous inscriptions and fragments of less certain character, one of which (No. 64) is of some value. The readings are those of Mr. Munro's copies, unless otherwise stated. The present editors have added some expansions and brief explanations. Where, as in Nos. 52, 53, 64, and elsewhere, these are borrowed from other scholars, acknowledgment is made; the remainder are either obviously common property or original. The numbers of the inscriptions in the third volume of the *Corpus* are quoted throughout; the numbers from 13626 onwards are taken from proof sheets which Professor Hirschfeld has very kindly sent to us. Where more than one reference is given, the inscription has been treated more than once in the *Corpus*.

1. Dukle: copied by Saski. [C. I. L. 8283.]

DIS DE
ABVSQ

2. Dukle: built side upwards into the north abutment of the Roman bridge on the Morača about a mile above the ancient town. Block of hard limestone, 2 feet 2 inches high, 1 foot $3\frac{1}{4}$ inches broad, with letters about 2 inches. [C. I. L. 12679.]

I · O · M	J(ovi) O(ptimo) M(aximo),
EPONE · REGIN	Epon(a)e regin(ae),
GENIO · LOCI	Genio loci,
P · BENNIVS · EC	P. Bennius E[g]-
REGIVS · MIL ·	regius, mil(es)
COH · VOL · ADIV	coh(ortis) Vol(untariorum), adju(tor)
RINC · BF · COS · V · S	[p]rinc(ipis), b(ene)f(iciarius) co(n)s(ularis), v(otum) s(olvit).

Adiutores principis are mentioned in C. I. L. VIII 4332 and Ephem. v. 709, but in both these cases the men served in legions. They appear to have been under-officers attached to the centurions, who were *principes*, and performing much the same clerkly duties as the *librarii*.

3. Dukle: near the junction of the Zeta and Morača. Panelled block of Spuž stone, 2 feet 6 inches high, 1 foot 11 inches broad, 1 foot 10 inches thick. Letters, $2\frac{1}{4}$ inches and $1\frac{1}{2}$ inch. Split in two and lacking the upper right-hand corner. Surface much weathered; Mr. Munro observes that the stone seems to have been shot at from across the Zeta. When copied before in 1875 and 1882, the inscription was perfect, except for the *i* of *Veneri*. [C. I. L. 8284.]



Veneri
Aug(ustae)
S[a]crum.
F[l](avia) Bassilla.

4—18. These inscriptions are all or almost all dedications to Emperors. It is possible, as Hirschfeld has suggested, that we should connect them with the mention of a *sacerdos ad aram Caesaris* below (No. 64), and should suppose that a centre of Caesar worship for southern Dalmatia was at Doclea itself.

4. Dukle: from the west gate, now in the parapet of the bridge. Panelled block of Spuž stone, 2 feet $9\frac{1}{4}$ inches high, 2 feet $1\frac{3}{4}$ inches broad, 2 feet 1 inch thick. Right lower corner cut away. Letters in first two lines, 3 inches, the rest, $1\frac{5}{8}$ inches. The inscription has been purposely defaced, and is hard to read.

Sticotti read practically nothing in the first line; in line 5 Borman read Q I I D on a squeeze sent by Sticotti. [C. I. L. 12680.]

DIVOTITO	Divo Tito
AVG·	Aug(usto)
LFLAVIVSQVIR	L. Flavius Quir(ina)
EPIDIANVS	Epidianus
IIIIVIRIDQVIQ	IIIIvir j(ure) d(icundo) qui(n)q(uennalis)
	[*not inscribed.*]
OB·HONO	ob hon[orem].

The occurrence of a *quattuorvir iure dicundo quinquennalis* is notable. In general, we find *duoviri* in colonies, *quattuorviri in municipia*, but the rule is not universally kept, and in Dalmatian municipalities, as M. Cagnat has observed, *quattuorviri* hardly occur.

This is the earliest datable inscription from Doclea. It proves that the town received municipal rights before the death of Titus, and perhaps from him (see note on No. 26). From other evidence, it is probable that the town received its rights from one of the Flavian emperors, who did a great deal for the Romanisation of Dalmatia.

5. Podgorica, old town: block of Spuž stone, cut away on all sides, built into the door-post of a stable in the yard of a Turkish house. [C. I. L. 12681.]

imp. ca	ES	*ri*
divi ner	VA	*e f.*
nervae tr	IA	*no aug*
germ. p	NT	*max*
trib. p	OE II	*cos ii*

Erected in honour of Trajan in the autumn of A.D. 98.

6. At the palace of Krušna Glavica, opposite Podgorica. Block of Spuž stone, 3 feet 1½ inch high, 2 feet broad, 2 feet thick, finely cut letters 2¾ inches high. [C. I. L. 12682.]

DIVO
TRAIAN
D D

On the right side of the same stone a stonecutter's mark, roughly cut in 2¼ inch letters.

CON

7. Dukle: from the west gate, outside which it lies. Panelled block of Spuž stone, 4 feet 1 inch high, 2 feet broad, 1 foot 10 inches thick. Letters, 2 inches

to 1½ inch. The inscription is purposely defaced, as the inscriptions of this emperor often are. [C. I. L. 12683.]

I M P	Imp(eratori)
C A E S M	Caes(ari) M.
A V R E L	Aurel(io)
S E V E R O	Severo
A L E X A N	Alexan-
D R O P I O	-dro Pio
F E L A V G	Fel(ici) Aug(usto)
P O N T M	pont(ifici) m-
A X T R I B	-ax(imo) trib(uniciae)
POT · P · P ·	pot(estatis) p(atri) p(atriae)
C O S · I I ·	co(n)s(uli) II
· R · P ·	r(es)p(ublica)
D O C L I	Docl[e]-
A T I V M	-atium.

8. Planinica near Povje: copied by Novaković. [C. I. L. 8285.]

IMP · CAES
M · IVLIO
PHILIPPO
PIO · FELICI
AVG

9. Dukle, built into the bridge by the west gate; copied by Sticotti. Purposely erased throughout. [C. I. L. 12684.]

IMP CAES
. . . . . .
. . . . . .
. . . . . AVG
. . . . . .
. . . . . OT
P · P · COS · II
RESPUBLICA
DOCLEATI
VM

Possibly dedicated, as Sticotti suggests, to Philip; more probably identical with No. 15, and belonging to Valerian.

10. Dukle: from the west gate, outside which it lies. Block of Spuž stone, panelled on three sides, 4 feet 6 inches high, 2 feet 1 inch broad, 1 foot 11 inches thick. The upper left corner is cut away. Letters $2\frac{3}{8}$ inches, rather rudely inscribed. Surface a good deal chipped. [C. I. L. 12685.]

ACIEIAE
VERAE
AVG
ONIVGI
PHILIPPI
AVG
MATRI
PHILPPI (*sic*)
NOBILISSIMI
CAES
RESP·DOC
D·D

11. Now at the palace of Krušna Glavica, opposite Podgorica. Panelled block of Spuž stone from Dukle, 4 feet 7 inches high, 2 feet $1\frac{3}{4}$ inch broad, 2 feet thick. Letters, $2\frac{3}{8}$ inches, a good deal defaced. [C. I. L. 12686.]

M · IVLIO
PHILIPPO
IMP · M · IVLI
PHILIPPI
AVG · FILIO
NOBILISSI
MO · CAES ·
RESP · D ·
D · D ·

Dedicated to the younger Philip.

12. Planinica near Povje, copied by Novaković. [C. I. L. 8286.]

Imp. Caesar
C. Messius Quintus
DEC
TRAIANVS
PIVS FELIX
AVG

Decius Trajanus reigned A.D. 249-251. The fact that his name appears here

in the nominative seems to separate this inscription from the imperial dedications which precede and follow it.

13. Dukle: from the west gate, outside which it lies. Block of Spuž stone, panelled on three sides, 4 feet 9 inches high, 2 feet broad, 1 foot $10\frac{1}{2}$ inches thick. Letters $2\frac{3}{8}$ inches, much worn. [C. I. L. 12687.]

IMP
CAES·
CVIP O
GALLO
PIOFEL
AVG
PONMAX
PP TR PO
COS·II RP
DOCL·
·D·D·

Dedicated to the Emperor Vibius Gallus in A.D. 252. In line 3 Sticotti read VIBIO.

14. Dukle: from the west gate, outside which it lies. Block of Spuž stone, panelled on three sides, 4 feet $2\frac{1}{2}$ inches high, 2 feet $\frac{1}{2}$ inch broad, 1 foot 11 inches thick. Letters $2\frac{5}{8}$ inches. Surface much weathered. [C. I. L. 12688.]

I·M·P
CAES
CVIBIO
VOLVSI
ANO·PI
OFEL·
AVG·
PONT·MAX·
PPTRPOT
COS·II·R·P·
RDOCL·
·D·D·

Dedicated to the colleague of the preceding, in A.D. 253. The first letter of line 11 is unintelligible, and may be a stonecutter's error.

15. Dukle: from the west gate, outside which it lies. Block of Spuž stone,

panelled on three sides, 4 feet $8\frac{1}{2}$ inches high, 2 feet $2\frac{1}{2}$ inches broad, and 1 foot 9 inches thick. Letters about $2\frac{3}{8}$ inches. The stone seems to have been inscribed three times over, and finally the writing has been purposely obliterated. [C. I. L. 13632. See No. 9.]

IMPCAES	Imp(eratori) Caes(ari)
I ICINIO	[P. L]icinio
VALERIAN	Valerian(o)
PIOFELAVG G	Pio Fel(ici) Aug(usto) <G>
PONT MAX	pont(ifici) max(imo)
TRIB · POT	trib(uniciae) pot(estatis)
P P COS II	p(atri)p(atriae) co(n)s(uli) II
RESPVBLICA	respublica
DOCLEATI	Docleati-
VM	-um.

The date is A.D. 254: as often on imperial inscriptions of this period the years of the *tribunicia potestas* are not stated. In line 4 the final G is inscribed on the moulding, and seems to be a survival from an erased inscription.

16. Found *in porta urbis Docleae juxta lacum Labeatem.* Now lost: a copy is preserved in an anonymous MS. collection of Dalmatian inscriptions made in or before the sixteenth century. [C. I. L. 1705.]

IMP · CAES · P · LICINIO · GALIENO
PIO · FELICI · AVG · PONT · MAX
TRIB · POT · P · P · CONS · II · RES
PVBl · DOCLEATIVM

Inscription in honour of the emperor Gallienus, erected A.D. 257—260.

17. Dukle: built (side upwards) into the north wall of the small church, inside. Fragment of a block of Spuž stone, about 11 inches square. Letters, first line, about 4 inches; second line, 3 inches. [C. I. L. 13633.]

Caesa [illegible] *p.* [illegible] *pot.*

18. Dukle: found outside the north-east corner of the small church. Frag-

ment of a panelled block of Spuž stone, 1 foot $\frac{1}{2}$ inch broad, $10\frac{1}{4}$ inches high, complete only to right. Letters 3 inches, in bad condition. [C. I. L. 13634]



. . . . . nob(ilissimo)
[Caesari res publica] d(edit) d(edicavit).

19-22. The following eleven fragments belong to inscriptions which occupied the epistyle of the civil basilica. As seen by Sticotti, they lay in four groups in front of the façade, facing the forum, in the following order, except that III*b* was found first by Munro :

Façade

IV	III*b*	II	I
		a b	*a b*
		c d	*c d*

Jelić, who also saw the inscriptions, observes that they stood over the four entrances from the forum into the basilica. They are all in honour of the same boy, M. Flavius Balbinus, whose parents were obviously important persons at the time when the basilica was erected.

19. Dukle : four fragments of the architrave of the civil basilica, lying together before the east front of the building, near the north end. Lengths : block (*a*), 4 feet 7 inches ; block (*b*), 2 feet $7\frac{1}{2}$ inches ; block (*c*), 2 feet 10 inches ; block (*d*), 4 feet 3 inches. The architrave consists of travertine blocks, 2 feet 6 inches high, and 1 foot 6 inches thick. The inscribed surface is 11 inches broad, and occupies the top of the block. The inscription is placed for a point of view from below, near the top of the blocks. Letters, in the upper line, about 3 inches, in the lower about $2\frac{1}{4}$ inches, finely cut and picked out with red. Measured by the following inscription, the space between the left edge of the O in *Balbino* and the left edge of the C in *defuncto* must have been 3 feet 1 inch. The total length of the inscribed blocks would therefore amount to from $15\frac{1}{2}$ to 16 feet [C. I. L. 8287=12692 I.]



M. Fl(avio), M(arci) f(ilio), Quir(ina), Balbino : [huic defun]c(to) ordo Docl(eatium) honores omnes et statuam
equestr(em) decrev(it). [Fl(avius) Fronto et] Fl(avia) Tertulla parentes inauraverunt.

20. Dukle: four fragments of the architrave of the civil basilica, lying together before the east front of the building, about 25 feet south of the preceding group. Lengths: block (*a*), 2 feet 10 inches; block (*b*), 5 feet ½ inch; block (*c*), 4 feet 1 inch. Other dimensions as in the preceding inscription. There is lost between the right edge of the Q in *Quirina* and the left edge of the second B in *Balbino* 1 foot 5½ inches; between the left edge of the D in *ordo* and the middle of the M in *omnes*, 4 feet 1 inch. The total length of the stones was therefore about 17½ feet. One fragment, roughly the same as (*c*) in No. 19, was not seen by Munro, but was copied by Sticotti and Rovinski. [C. I. L. 8287=12692 II.]

The inscription is *verbatim* and *litteratim* the same as 12,992 i, except that in place of PARENTES · INAVRAVERVNT the word FIL occurs after TERTVLLA and under the M of OMNES.

21. Dukle: fragment of the architrave of the civil basilica, lying before the east front of the building, about twelve paces south of the preceding group. Length, 6 feet 4 inches, to which must be added about 6 inches of broken stone on the left of the inscription. This stone has been long exposed to the weather, but is quite legible. [C. I. L. 8287=12692 IV.]



abrum or *frum. dand.*

For the name of the emperor see the note on No. 26.

22. Dukle: two fragments from the architrave of the civil basilica. The right hand piece lies before the east front of the building near the south end, about 14 paces south of the preceding block. It is 5 feet 2½ inches long, otherwise similar to the other architrave blocks. The left hand piece was found in the middle of the small church about a quarter of a mile distant from the basilica; it is 2 feet 9 inches long, 10 inches high, and 1 foot ½ inch thick. Letters, the first line about 3 inches; the second about 2⅞ inches. [C. I. L. 8287=12692 III.]



. . . . . ordo Doc]l(eatium) honores omnes et statuam equestr(em) [decrevit . . . parentes] inauraverunt.

This inscription is distinguished from all the others on the architrave of the basilica by the larger size of the letters in the second line. It may be conjectured, therefore, that it belongs, not to the east front like the rest, but to the south.

23. Dukle: in the pavement of the civil basilica. Slab of Spuž stone, 4 feet 9½ inches long, 1 foot 11½ inches broad. Letters 2¾ inches to 1¼ inch, elaborately cut and in good style. The left side is much worn, and has been smashed into pieces by the fall of the building; the right side, protected by a wall, is in good condition. [C. I. L. 12693=13629.]



M. Flavio, M(arci) f(ilio),
Quir(ina),
Balb[i]no ann(orum) xv :
hu[i]c defunct(o) ord(o)
m[uni]c(ip.) D[o]c[l](eatium) funus
[publicum et] statuam
[equestr(em)? dec]r(evit): item
[decrevit] honores
q[uanto]s pe[r leg]es caper[e]
[liceret et stat(uam)] equest(rem)
[M. Flavius. M. f?] Quir(ina)
..... statuam
t(estamento) p(oni) j(ussit)
M. Flavius Fronto
et Flavia Tertulla
parente[s i]mpens(a) adject(a)
inauraverunt.
[M Flav]ius Fr[onto] .....

24. Dukle: in the civil basilica. Two fragments of a slab of Spuž stone similar to the preceding, but possibly an inch or two broader. (*a*) was found lying loose in the building. (*b*) was discovered by Mr. Milne face downwards in the pavement. It has been roughly hewn to its present shape, and is broken into many pieces. The lower part was completely rotten and crumbled to dust on being touched. Letters 3 inches to 1⅜ inch. [C. I. L. 12694=13630.]



[M. Fla]vio, M(arci) [f(ilio)],
[Qui]r(ina),
[Balbino] ann(orum) xv :
[huic defu]nct(o) ord(o)
[? ampl. decu]r(ionum)funu[s]
[publ(icum) et st]atuam
[equestr(em)?] decrevi[t] :
[item ordo D]ocleatiu[m]
[honores q]uantos pe[r]
[leges (capere)] liceret [et]
[statuam e]questr(em).
[Flaviu]s Fronto
[Fl]avia T. f. Tertu[lla]
fil[i]o

Possibly this slab and the preceding are from the base of equestrian statues. The last line R T . . . L (*Te*]*rt*[*u*]*l*[*la*) may continue the last line of the preceding. The supplement to line 5 was suggested by Hirschfeld.

25. Dukle : not far from the junction of the Zeta and Morača. A block of Spuž stone from an architrave, 2 feet 3 inches long, 1 foot 9 inches high, 1 foot 4½ inches thick, broken to right. Letters 4 inches. [C. I. L. 13640.]

fac. cu
? inaurave R · PECVNIAS*ua*

26. Dukle: copied by Rovinski, sought in vain by Munro. [C. I. L. 12695.]

M · FLAVIO · T · F · QVIR
FRONTONI SACERD
IN COLONIS · NARON
ET EPIDAVRO IIVIR · I · D
IV]IO RISINO IIVIR
CVI INQ ION[IN COI
SCCDR IIVIR IDQVIM
IIAM //// PRAEF ////
PLEPS
EX AERE CONLA[C

M. Cagnat suggests: *M. Flavio T. f(ilio) Quir(ina tribu) Frontoni, sacerd(oti) in coloni(i)s Naron(a) et Epidauro, ii vir(o) i(ure) d(icundo) Iu[l]io Risino, ii vir(o) [q]uinq(uennali), [p]on[ti(fici)] in co[l] Sc[o]dr(a) ii vir(o) i. d. qui[nq.], [fl]amini [diui Aug.] praef. [fabrum], pleps ex aere conla[to].*

The lost emperor's name in line 8 cannot have been a long one, and as Flavius Fronto may well have been the father of the boy mentioned in No. 19, we may perhaps suggest Titus and refer the inscription to the origin of Doclea (see No. 4).

The references to Risinium and Scodra are important; as M. Cagnat has pointed out, they show that Risinium received city rights from Augustus, while Scodra seems to have been raised from the rank of *Municipium* to that of *Colonia* by the Flavian emperors.

27. Dukle: found just outside the door of the large church. Morsel of a slab of Spuž stone, 6 inches high, 5 inches broad, 3 inches thick, broken on all sides. Letters 1 inch, poorly cut. [C. I. L. 13639.]



Possibly part of the dedication of the church (cf. No. 28).

28. Dukle: found beside the gateway facing the west front of the small church. Lintel block of Spuž stone, 7 feet 6 inches long, 10 inches high, 1 foot 3½

inches thick. Letters 4 inches, plainly and deeply cut on a concave moulding in the middle of the lintel. [C. I. L. 13654.]



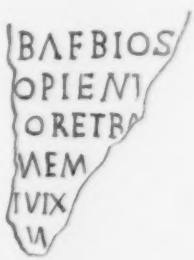
Ausonia diac(onissa) pro voto suo et filiorum suorum f(aciendum) c(uravit).

29. At Berane, in the valley of the Lim, Albania, but said to have been brought from the neighbouring village of Budimlje, built upside down into the south wall of the church of Gjurgjevo Stupovi: panelled block of coarse bluish marble. Above the inscription is a relief of three busts with clasped hands, over two garlands. The letters are picked out with red. [C. I. L. 13641.]

D M S	D M S
AR·VERZANO	Aur(elio) Verzano ?
LIBERTOQ	liberto q(ui)
VIXSIT·AN	vixsit an-
NIS LXXXV	-nis LXXXV.

In line 3 a Greek Λ seems to be used for L.

30. Zlatica, about two miles east of Dukle: dug up in the old church. Block of Spuž stone, much broken; apparently a capital split in half vertically, 1 foot 3 inches high, 1 foot broad. Letters 1 inch to $1\frac{3}{8}$ inch. Copy and squeeze by Mr. Milne. [C. I. L. 13642.]



31. Dukle: in a house by the north wall. Small panelled slab, 1 foot 1 inch square, 5 inches thick. Letters from $1\frac{1}{4}$ inch to $\frac{3}{4}$ inch. [C. I. L. 8288*a*.]

C · CANINIO
VALENTI
CANINI IV
LIANVSET
PROCVLVS ·
PATRIPISSIMO
FEC

32. Dukle, at the meeting of the Zeta and Moràča. Now at Ragusa; copied by Hirschfeld. [C. I. L. 8287.]

Q · CASSIO · AQVILAE
DECVRION · I EPIDIA · CE
LERINA · VXOR · ET . CAsSIA
AQVLINA · FILIA · PATRI
PIISSIMO · ET · SIBI · ETSVIs
VIVAE · FECERVNT

"To Q. Cassius Aquila, a decurion [of Doclea], erected by his wife Epidia Celerina and his daughter Cassia Aqu(i)lina, to him, themselves, and their household, in their lifetime."

33. Podgorica, in the Serbian cemetery; copied by Bogišić and Sticotti. Bad lettering. [C. I. L. 8289.]

D · M · S
C L A N I C E T O
MARITO PIENTISSIMo
CL OLYMPIA · VXOR ·
MEMORIAM POSVIT
QVI · VIXIT · AN · LVIIII
M · VIIII DIES · V · HAS
PRO MERITIS SEDES
CARISSIMO CONIVGI-
MEMORIAM POSVIT

Erected to Claudius Anicetus, aged 59 years 9 months 5 days, by his wife Cl. Olympia.

34. Dukle: lying in the ravine close under the bridge, no doubt from the west gate. The upper part of a block of Spuž stone panelled on three sides, 1 foot 8 inches high, 1 foot 11 inches broad, 11½ inches thick, with 2¼-inch letters. The inscription is complete. [C. I. L. 12707.]

CL · Q · FIL
PROBILLAE

Cl(audiae) Q(uinti) fil(iae) Probillae.

35. At the palace of Krušna Glavica opposite Podgorica. Block of Spuž stone

from Dukle, 2 feet 8 inches high, 1 foot 11¾ inches broad, 1 foot 8 inches thick. Letters 2 inches to 1½ inch. About a third of the face is broken away on the left, but the inscription seems to be complete. [C. I. L. 12691.]

M·EPIDIO
P·FIL·QVR
LATINO·DEC
D

i.e. M · Epidio P(ubli) fil(io) Quir(ina) [Lat]ino, dec(urioni) D(ocleati).

36. Dukle: in the western cemetery. Small block of Spuž stone, 11½ inches high, 10 inches broad, 6 inches thick. Letters about 1 inch.; much worn to left. [C. I. I. L. 12708.]

ЄΠοIHCЄΦ	*ἐποίησε Φ -*
ΛΑKIΔIOCX	*- λακίδιος Χ -*
ΛPITωN	*· αρίτων*
ΛΠΠIANω	*Ἀππιανῷ*
⁄⁄⁄⁄⁄⁄HTHM	*· · · · ητη μ -*
⁄⁄⁄⁄⁄⁄XΛPIN	*[- νήμης] χάριν*
⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄	*· · · · ·*

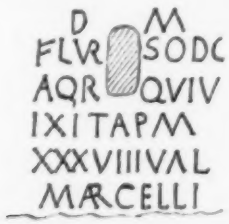
This is the only Greek inscription yet found at Doclea.

37. Zlatica, dug up in the old church. Limestone slab, 2 feet 2 inches high; broken at both sides. Letters 1½ inch. On the back is carved a cross. Surface much worn. Copy and squeeze by Mr. Milne. [C. I. L. 13643.]

. . . . . .
. . . F . . . . .
I · ΓL · CRE*scenti*
p ATR . . . . .
5 ? · V · ANNIS L
FL · CRESC*ens*
B · M

38. Dukle: found in the large church, near the south-west corner. Block of Spuž stone, cut away at the top and bottom, 2 feet 1 inch square. An ornamental border runs down each side. The top of the stone was occupied by relief of three half-figures facing to right, each holding an object. Beneath the relief is a band of ornament and the panel containing the inscription. In the middle of the

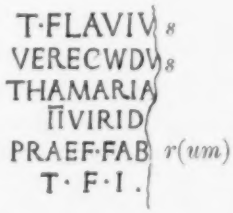
second and third lines of the inscription is an upright hole, which must have been there before the stone was inscribed, for it has been carefully avoided by the cutter. [C. I. L. 13638.]



D(is) M(anibus)
Fl(avio) Urso d(e)c(urioni)
Agr(uvino ?) qui v -
- ixit a(nnos) p(lus) m(inus)
xxxviii Val(erius)
Marcelli -
[nus] . . .

Agruvium was a small Dalmatian town close to the modern Cattaro.

39. Dukle: in the civil basilica. Panelled block of Spuž stone, 2 feet 9 inches high, 1 foot 6 inches broad, broken on the right. The border of the panel is chiselled away on the left, but the inscription is complete on that side. Letters $2\frac{1}{2}$ inches to $1\frac{7}{8}$ inch, well cut in good style. M. Cagnat, judging from a squeeze, assigns it to the end of the first or beginning of the second century, to which date he also ascribes Nos. 19 to 22. [C. I. L. 8287 = 12678.]



Thamaria may be a Dalmatian place-name.

40. Dukle: now at Ragusa. Copied by Mommsen. [C. I. L. 1707 = 8282.]

D M S
FL EVTIAE
PIEAITISIM
EQVAE VIXIT
AN PLVS MINVS
XXX EPIDIVS
FILIPVS MRI
TVS POSVIT

To the memory of Flavia Eutia, aged about xxx; erected by her husband, Epidius Filipus (Philippus).

41. Dukle: in the western cemetery. Small panelled block of Spuž stone, 1 foot 1½ inch high, 9½ inches broad. Letters about 1 inch. [C. I. L. 13644.]

D·M·S·
FL·IANVARI
AEQVAEVI
XITAN·XLVIII
GRATVSCON
IVGIINCOMP
ARABILI PO
SVIT

i.e. D(is) M(anibus) s(acrum) Fl(aviae) Januariae quae vixit an(nos) XLVIII. Gratus conjugi incomparabili posuit.

42. Dukle, at the north-east gate: copied by Neigebaur and Bogišić. [C. I. L. 1706=8281.]

F//AVIA
C · FILIA
si B · POS
L · D · D · D

Probably the conclusion of a memorial stone. *Flavia C. filia* reappears on Nos. 45, 56.

43. Dukle: copied by Rovinski. [C. I. L. 12696.]

· · AVIA
PINNIA
TFI
FL · EPDA/S
F · C ·
L · D · D · D

[Fl]avia Pinnia t(estamento) f(ieri) i(ussit: Fl. Ep[i]d[i]a[n]us f(aciendum c(uravit): l(ocus) d(atus) d(ecreto) d(ecurionum). The emendation of line 4 is due to M. Cagnat.

44. Dukle: in the western cemetery. Small panelled block of Spuž stone, 1 foot 3½ inches high, 11½ inches broad. Letters 1¼ inch. [C. I. L. 13645.]

D · M
F·PINNIAE
Q·VI·ANXXX
M·VALERIVS
QVINTIAN
VS·VX·ET·F·
QVINTINAE
F·Q·VI·AN·X

For *F(lavia) Pinnia*, cf. No. 43.

45. Dukle: copied by Rovinski. [C. I. L. 12697.]

IIID · II
FLAVIA
C · F
RVFINA
FILIO
POSVIT
L D D D

The first remaining line contained probably an official title like *iivir. id. ii.*, belonging to the man in whose memory the stone was erected. Flavia C. f. Rufina may be connected with the persons mentioned in Nos. 42, 56.

46. Dukle: found in the basilica and copied by Petričevic and Rovinski. Munro saw only a fragment 8½ by 7½ inches, with 1-inch letters, belonging to the lower left side. [C. I. L. 12709.]

D M
M I S E R I M E
I N F E L I C I S S I M E
F E V R S I L L A E
Q V E V I X I T A N
V I M II D X X V
F L V R S V S E T F L
B A E B I A P A R E N
T E S F I L I A E
C E

D. m. mise(r)rim(a)e infelicissim(a)e F[l]. Ursillae qu(a)e vixit an(nos) vi m(enses) ii d(ies) xxv. Fl. Ursus et Fl. Baebia parentes filiae [*inno*]*ce*[*ntissimae . .*]

In 6 Munro read ME, in 8 BA, in 9 IES.

47. Dukle: now at the hut in the western cemetery. Small panelled slab, 1 foot 7 inches high, 1 foot 6 inches broad, 4 inches thick. Letters from 1½ to 1 inch, well cut. [C. I. L. 12702.]

D·M·C	*i.e.* D(is) M(anibus) C.
GORDMAXI	Gord(io) Maxi-
MIANOART	-miano art-
ISGRAMATIC	-is gram(m)atic-
ÆGRÆCÆPERI	-ae Graecae peri-
TISSIMO·Q·FL	-tissimo. Q. Fl(avius)
HELENVSAMI	Helenus ami-
COINCONPA	co inconpa-
RABILI	ribili.

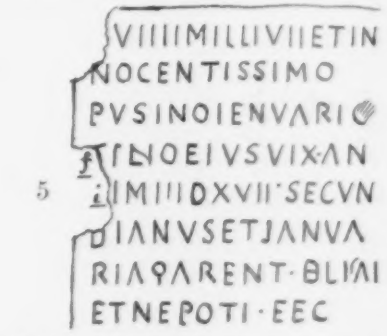
48. Dukle: now in the Ragusa Museum. Copied by Hirschfeld. [C. I. L. 8291.]

D · M · S
IADESTINVS
BAEBIOR · SER
SIB · E · S · V · F ·

D. M. s., Iadestinus Baebior(um) ser(vus) sib(i) e(t) s(uis) v(ivus) f(ecit).

The slave's name is formed from the town name Iadera. For the Baebii cf. No. 31.

49. Podgorica: outside the reading-room. Small column-base of Spuž stone, brought from Zlatica. The inscription occupies the square under-face of the base. Letters about 1½ inch, rudely inscribed and carelessly picked out with black. When seen by Petričevic the initial letters of 4, 5, were extant. [C. I. L. 12711.]



Tombstone to a daughter and grandson: the daughter's name was given with

the beginning of the inscription on another stone. The whole ran probably somewhat thus: [D. M. . . . . quae vixit annos] VIIII m(enses) II d(ies) VII, et innocentissimo Pusino J[a]nuario [f]ilio ejus, vix(it) an(nos) [I]I m[enses] III d(ies) XVII, Secundianus et Januaria parent(es) filia[e] et nepoti [f]ec(erunt).

In all probability the word *Pusino* is equivalent to *Pupo*, which is commonly used as the *praenomen* of children too young to have legal *praenomina* of their own; it does not seem to occur elsewhere in literature or epigraphy. In line 7, P is formed like a Greek koppa, as happens occasionally on rudely cut inscriptions (*e.g.* Eph. vii. 1025).

50. Dukle: in the western cemetery. Small block of Spuž stone, 1 foot $1\frac{1}{2}$ inch high, 1 foot $3\frac{1}{2}$ inches broad, $4\frac{1}{2}$ inches thick, with letters about 1 inch. The upper right hand corner is broken away, but the inscription is complete. [C. I. L. 12710.]

D M
M · IVL · LACONI
QVI VIXIT · A · XLV
HVIC · DEE · BAEB
TAMODERATA ·
MAITO · B · *N*
E ·

i.e. D(is) M(anibus) M. Jul(io) Laconi, qui vixit a(nnos) XLV: huic def(uncto) Baeb[i]a Moderata ma[r]ito b(ene) m(erenti) [f(ecit)].

51. Dukle: copied by Sticotti. [C. I. L. 12699.]

M · LICINIO · PROBo
DEC
QVI · VIXIT · ANN · L
M · LICINIVS · SEVERVS.
PATRI · OPTIM

52. Dukle, found 1890: copied from a squeeze by Hirschfeld. [C. I. L. 12690.]

M MA/////
A M B A C T I
C O R N E L I
DOM BRYXIA
P SCRASIVS
NAEOLVS ÆQ
P SCRIBAQ
AMICO IN
CONPARABI

Probably, much as Hirschfeld suggests, *M. Ma[rii?] Ambacti Corneli[ani?], dom(o) Br(i)xia, P. Scrasius Naeolus aeq(uo) p(ublico), scriba q(uaestorius) amico incomparabi(li).* *Bryxia, Naeolus, aequo* are variants for *Brixia, Naevolus, equo,* for which many parallels occur.

53. Now, at the palace of Krušna Glavica, opposite Podgorica: panelled block of Spuž stone from Dukle, 2 feet 7 inches high, 1 foot 10½ inches broad, 1 foot 8 inches thick. Letters 2¼ inches to 1⅜ inch. [C. I. L. 12700.]

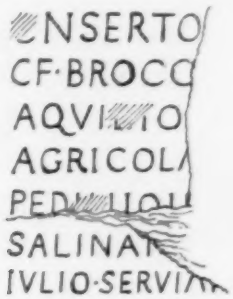
M·NOVIO	M. Novio
QI·IVSTO	Qui(rina tribu) Justo
DEC·EXTESTA	dec(urioni), ex testa-
MENTO·EIVS·	-mento ejus
T·NOVIVS·MA	T. Novius Ma-
XIMVS·FRA	-ximus fra-
TER·PONENDVM	-ter ponendum
CVRAVT·	curav[i]t
·L·D·D·D	l(oco) d(ato) d(ecurionum) d(ecreto).

54. Dukle: in the western cemetery. Small panelled block of Spuž stone, 9¾ inches high, 1 foot ¾ inches broad. Letters from 1 inch to ¾ inch. [C. I. L. 12712.]

QVARTION
C·FLA·IVSTI
SERVO·PLA
IA CONTVBER
NALIS

i.e. Quartioni C. Fla(vii) Justi servo Pla [-?]-ia (Flavia ?) contubernalis.

55. Dukle: found in the small church, the upper part built into the south wall, the lower part lying in the middle of the building. Panelled block of Spuž stone, 2 feet $10\frac{1}{2}$ inches high, 1 foot $10\frac{3}{4}$ inches broad, 1 foot 9 inches thick, broken across. The surface is chipped away at both sides, but the inscription is complete on the left. Letters $1\frac{3}{4}$ inch to $1\frac{1}{4}$ inch, somewhat worn. [C. I. L. 13635.]



i.e. [C]n. Serto[rio] C. f. Brocc[ho] Aquilio Agricola[e] Ped[an]io F[usco ?] Salina[tori] Julio Servia[no . . . .

All the names probably belong to one man, who may have been, as Hirschfeld suggests, by birth Sertorius Brocchus, by adoption son of Cn. Pedanius Fuscus Salinator (cos. A.D. 118), the son-in-law of L. Julius Ursus Servianus (cos. before 98 and in 102). Such accumulation of names was not uncommon, especially in the second century. A C. Sertorius Brocchus was pro-consul of Asia at an unknown time.

56. At the palace of Krušna Glavica, opposite Podgorica. Block of Spuž stone from Dukle, 3 feet 7 inches high, 1 foot 10 inches broad, 1 foot 11 inches thick. Letters $2\frac{5}{8}$ inches. [C. I. L. 8287=12701.]

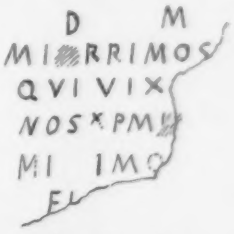
SERVENIÆ
MARCELAE
MATRI·
OPTIMAE
FL·C·FIL·
PRISCA
L·D·D·D

57. Dukle: dug up near the surface between the two churches. Two frag-

ments of a small marble slab, broken below. Total breadth, 11 inches, height 8 inches, thickness $2\frac{1}{4}$ inches. Letters $1\frac{3}{4}$ inch. [C. I. L. 13648.]

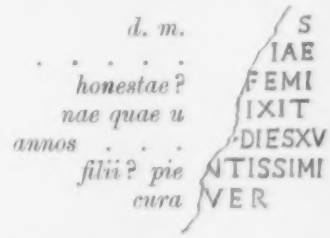


58. Dukle: found on the surface about mid-way between the west gate and the civil basilica. Fragment of rough block, complete only to left, 1 foot $\frac{1}{2}$ inch high, 1 foot $1\frac{1}{2}$ inch broad, $5\frac{1}{4}$ inches thick. Letters about $1\frac{1}{4}$ inch, scratched rather than cut and much worn. [C. I. L. 13650.]



For *Mi[se]rrimo*, in line 2, compare No. 46.

59. Zlatica: extracted from the wall of a house near the old church. Limestone slab, broken to left, 1 foot $6\frac{1}{2}$ inches high, 1 foot $9\frac{1}{2}$ inches broad. Letters $1\frac{1}{2}$ inch. Copy and squeeze by Mr. Milne. [C. I. L. 13652.]

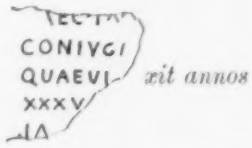


60. Dukle: copied by Hirschfeld from a squeeze. The text is uncertain, especially in 2, 4, 5. [C. I. L. 12704.]

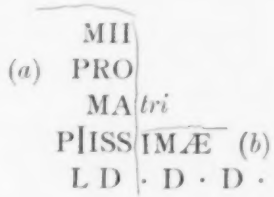
D M
////VIo NO///
/Vo SoDALI
R o M I ! / / / C D
//NVS ET FL · CI////
IMVS · COLLEGE
B · M · PoS

D(is) M(anibus) [? No]vio No[. . . .]uo sodali Rom[. ; . .] nus et Fl(avius Ci[. . . .]imus Colleg(a)e b(ene m(erenti) pos(uerunt).

61. Now at Podgorica, outside the reading-room. Small fragment of Spuž stone, broken on all sides except the left. Very rudely inscribed. Letters about 1 inch. The stone is said to have been brought from Zlatica, where Sticotti saw it. [C. I. L. 12703.]



62. Dukle: (*a*) copied by Saski; (*b*) dug out of a rubble wall on the south side of the west gate, a fragment of panelled Spuž stone 9 × 14 inches with two-inch letters. [C. I. L. 8288=13626.]

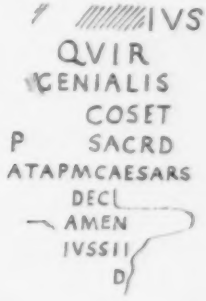


63. Dukle: outside the west gate. Lower left corner of a panelled block of Spuž stone, 1 foot 1 inch high, 9½ inches broad. Letters, about 2 inches, poor late style. [C. I. L. 13653.]



64. Dukle: found lying in front of the apse in the large church. Panelled block of Spuž stone, 2 feet 7¼ inches high, 1 foot 9½ inches broad, 11 inches thick, broken below, especially at the corners, also at the upper left hand corner, and

elsewhere on the left side. Letters, $2\frac{1}{2}$ inch to $1\frac{1}{4}$ inch, fairly well cut, but badly weathered. [C. I. L. 13636.]



. . . *ius*
Quir(ina tribu)
Genialis
[viator?] co[n]s(ulum) et
p[raet(orum)] sac[e]rd(os)
at a[ra]m Caesar[i]s
dec(urio)
test]amen[to poni
iussi[t]
[L. d. d.] d

Hirschfeld, from a squeeze, reads ER (in ligature) for R in 5, AA for M in 6, TE in 8 init. and TO PO in 8 fin. The suggestion of *viator consulum et praetorum* is due to him, and he also points out that this mention of an *ara Caesaris* is the first yet found in Dalmatia proper, and that, combining this inscription with the many imperial dedications (Nos. 4 foll.), we may fix the site of the altar at Doclea itself.

65. Dukle, copied by Rovinski. [C. I. L. 12689.]

PRAEF . . *praef(ectus)*
DAND *frumenti] dand[i . .*
OSROV *proc]os [p]rov*
LEC . . . . *le[g*

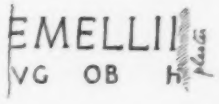
The conjectures are due first to M. Cagnat.

66. Dukle, found in the torrent bed just below the bridge. Fragment of a block of Spuž stone, 1 foot 5 inches high, 1 foot broad, broken all round. Letters, 2 inches, in poor late style. [C. I. L. 13637.]



Rufina
piissim . .

67. Podgorica, old town: block, built into the wall of a house, high up, upside down, broken right and left. Letters in first line about 6 inches. [C. I. L. 82901=2698.]



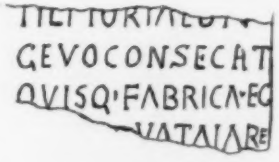
. . . G]emelli[nus ?] . . . A]ug(usti) ob h[onorem].

68. Dukle: outside the west gate. Lower part of a panelled block of Spuž stone, 1 foot $3\frac{1}{2}$ inches high, 1 foot $9\frac{1}{2}$ inches broad. Letters $2\frac{1}{4}$ inches, in good style.



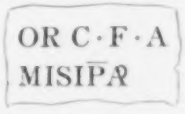
[p(onendum)] c(uravit) l(oco) d(ato) d(ecreto) d(ecurionum).

69. Dukle: found outside the south wall of the large church. Fragment of a panelled slab of Spuž stone, 9 inches high, 1 foot $1\frac{1}{2}$ inch broad, $2\frac{1}{2}$ inches thick. The slab is broken at the top and bottom, and the border to left, but the inscription is complete on both sides. Letters $1\frac{1}{2}$ inch, picked out with red. [C. I. L. 13651.]



Long(a)evo seems plain; the rest is unintelligible.

70. Podgorica: copied by Petričević. [C. I. L. 12705.]



In line 2, Hirschfeld suggests *pro]misit.*

71. Budimlje (about a mile north-east of Berane, in the valley of the Lim):

in the old churchyard. Stone about 7 feet long and 3 feet broad. Surface much worn. [C. I. L. 13646.]

Along the upper edge : . . IS . . . M . . . . . .

Along the lower edge : . . . . . ANNAI//AX//IIASCCI . . . .

Possibly . . Anna [M]ax[im]ia Sc[odrina ?]

72. *Ibid.* Similar stone. [C. I. L. 13647.]

About the middle : T . . . . . V M MAXIMVS

Along the lower edge : MAXI . . . . . IV SII

The last word may be *Iusti*.

73. Berane : built into the south wall of the church of Gjurgjevo Stupovi. Coarse bluish marble. [C. I. L. 13649.]

VALE

74. Dukle : copied by Rovinski. [C. I. L. 12713.]

IL
AE
CE
FI

75. Dukle : in the civil basilica. Fragment of Spuž stone, broken on all sides, $11\frac{1}{2}$ inches high, 9 inches broad. Letter, $2\frac{1}{4}$ inches. [C. I. L. 12714.]



76. Cetinje, in the museum : on a tile from Dukle. Copy and squeeze by Mr. Milne.

CLOBM

[Q] Clodi Am[brosi]

Cf. C. I. L. iii. 3214, 2 ; Cagnat, No. 17, gives it imperfectly.

77. Dukle : on a fragment of tile found in the large church.

AI

INDEX.

1. Names of Private Persons. 2. Emperors. 3. Military. 4. Religious. 5. Civil. 6. Place Names. 7. Orthography, etc.

NAMES OF PRIVATE PERSONS.

a. Praenomina.

Pusinus = Pupus ? . . . 49

b. Nomina.

Aur(elius) Verzanus ? . . . 29
Baebius S. 30
Baebia Moderata . . . 50
Baebiorum servus . . . 48
P. Bennius Egregius . . . 2
C. Caninius Valens . . . 31
Caninius Iulianus . . . 31
Caninius Proculus . . . 31
Q. Cassius Aquila 32
Cassia Aqu(i)lina . . . 32
Cl. Anicetus 33
Cl. Olympia 33
Cl. Q. fil. Probilla . . . 34
[Q] Clodius Am[brosius . . . 76
Epidius Filipus 40
M. Epidius P. fil. Latinus . . . 35
Epidia Celerina 32
Flacidius Charito (Greek) . . 36
M. Fl(avius) M. f. Balbinus . 19-24
Fl. Ci . . . imus 60
Fl. Crescens 37
L. Flavius Epidianus . . . 4
Fl. Ep[i]d[i]a[n]us . . . 43
M. Flavius T. f. Fronto . . 19-24, 26
C. Fla(vius) Iustus 54
Q. Fl. Helenus 47
Fl. Ursus . . . 38, 46
T. Flaviu[s] Verecundu[s . . . 39
Flavia C. filia 42
Fl. Baebia 46
F[l]. Bassilla 3
Fl. Eutia 40
Fl. Ianuaria 41
[Fl]avia Pinnia 43
F. Pinnia. 44
Fl. C. f. Prisca 56
F. Quintina 44
Flavia C. f. Rufina . . . 45
Flavia Tertulla . . . 19-24
F[l]. Ursilla 46
C. Gordius Maximianus . . 47
Pusinus Ianuarius 49
M. Iulius Laco 50
M. Licinius Probus 51
M. Licinius Severus 51
M. Ma[rius ?] Ambactus Corneli[anus] . 52
M. Novius Iustus 53
T. Novius Maximus . . . 53
? No]vio No 60
P. Scrasius Nae(v)olus . . . 52
Cn. Sertorius C. f. Brocchus Aquilius Agricola Pedanius F(uscus ?) Salinator Iulius Servianus . . 55

Servenia Marcel(l)a . . . 56
L. Tullius Claudianus . . . 57
Val(erius) Marcelli[nus . . . 38
M. Valerius Quintianus . . . 44
Vale[rius ? 73
. . . ius Genialis 64

c. Cognomina.

Agricola 55
Ambactus 52
Am[brosius 76
Anicetus 33
Appianus (Greek) . . . 36
Aquila 32
Aqu(i)lina 32
Ausonia 28
Balbinus 19-24
Bassilla 3
Brocchus 55
Celerina 32
Charito (Greek) 36
Claudianus 57
Corneli[anus 52
Crescens 37
Egregius 2
Epidianus 4, 43
Eutia 40
Filipus 40
Fronto 19-24, 26
F[uscus] ? 55
G]emelli[nus 67
Genialis 64
Gratus 41
Helenus 47
Iadestinus *ser.* 48
Ianuarius-ia (Ien-) . . . 41, 49
Iulianus 31
Iustus . . . 53, 54, 72 (?)
Laco 50
Latinus 35
Marcel(l)a 56
Marcelli[nus 38
Maximianus 47
Maximus 53, 72
Moderata 50
Nae(v)olus 52
Olympia 33
Philippus, *see* Filipus . . . 40
Pinnia 43, 44
Plaia ? 54
Prisca 56
Probilla 34
Probus 51
Proculus 31
Quartio *ser.* 54
Quintianus 44
Quintina 44
Rufina 45, 66
Salinator 55
Secundianus 49
Servianus 55
Severus 51
Tertulla 19-24
Ursilla 46
Ursus 38, 46
Valens 31
Verecundus 39
Verzanus ? 29

Ci . . imus 60

EMPERORS.

Titus . . . . . 4, 26 ?
Traian 5, 6
Alexander Severus 7
Philip . . . . . 8, 9 ?, 10, 11
„ (son) 10, 11
Otacilia 10
Traian Decius 12
Trebonianus, Volusianus . . 13, 14
Valerian 15
Gallienus 16
incert. 17, 18, 21, 26

ara Caesaris 64

Military.

coh(ors) vo(luntariorum) . . . 2
adiutor principis 2
beneficiarius consularis . . . 2

Religious.

dis deabusq(ue) 1
I(ovi) o(ptimo) m(aximo) . . . 2
Epona Regin(a) 2
Genius loci 2
Venus Aug(usta) 3

---

flamen [diui Titi ?] . . . 21, 26
sacerdos at aram Caesaris . . . 64
sodalis Rom , ... 60
pontifex 21, 26

Christian: diaconissa . . . 28

Civil.

equus publicus 52
scriba quaestorius 52
viator cos et praet ? 64

---

tribus Quirina . 4, 19—24, 26, 35, 53, 64
respublica Docleatium
ordo . . . } . . passim
decuriones . .
iivir quinquennalis 26
iiiivir quinquennalis 4
iivir i(ure) d(icundo) . . 26, 39, 45 ?
praefectus fabrum . . 21?, 26?, 39
praefectus frumento dando . . . 65
pleps 26
libertus 29
servi 48, 54

Place Names.

Agr[uvium ?] 38
Bryxia(Brixia) 52
Doclea . . . . *passim*
Epidaurum 26
Julium Risinum 26
Narona 26
Scodra 26
Thamaria 39

Orthography, etc.

Aequo = equo. 52
At = ad 64
Bryxia = Brixia 52
Filipus 40
Marcela 56
Miserimus 46
Naeolus 52
Pie[n]tisime 40
Pleps 26
Greek lambda in Roman inscription. . 29

Miscellaneous.

Stonecutter's marks 6
Statua equestris . . . 19 *foll.*
Artis grammaticae peritus . . . 47

Bibliography.

C. I. L. III. numbers cited. [Copies by Hirschfeld, Bogisić, Sticotti, and others.]

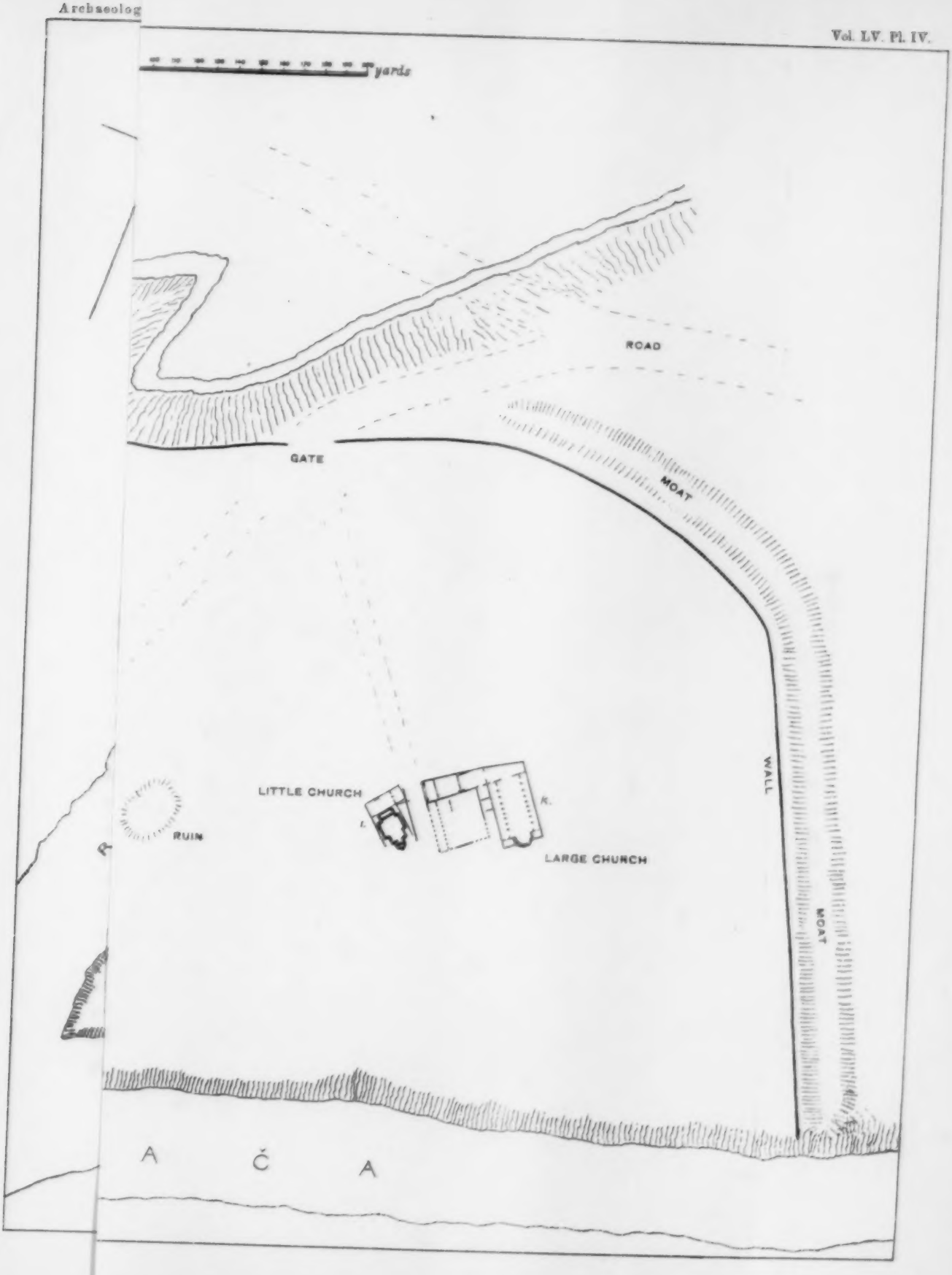
Cagnat, *Comptes-rendus de l'Académie*, 1890, p. 138.

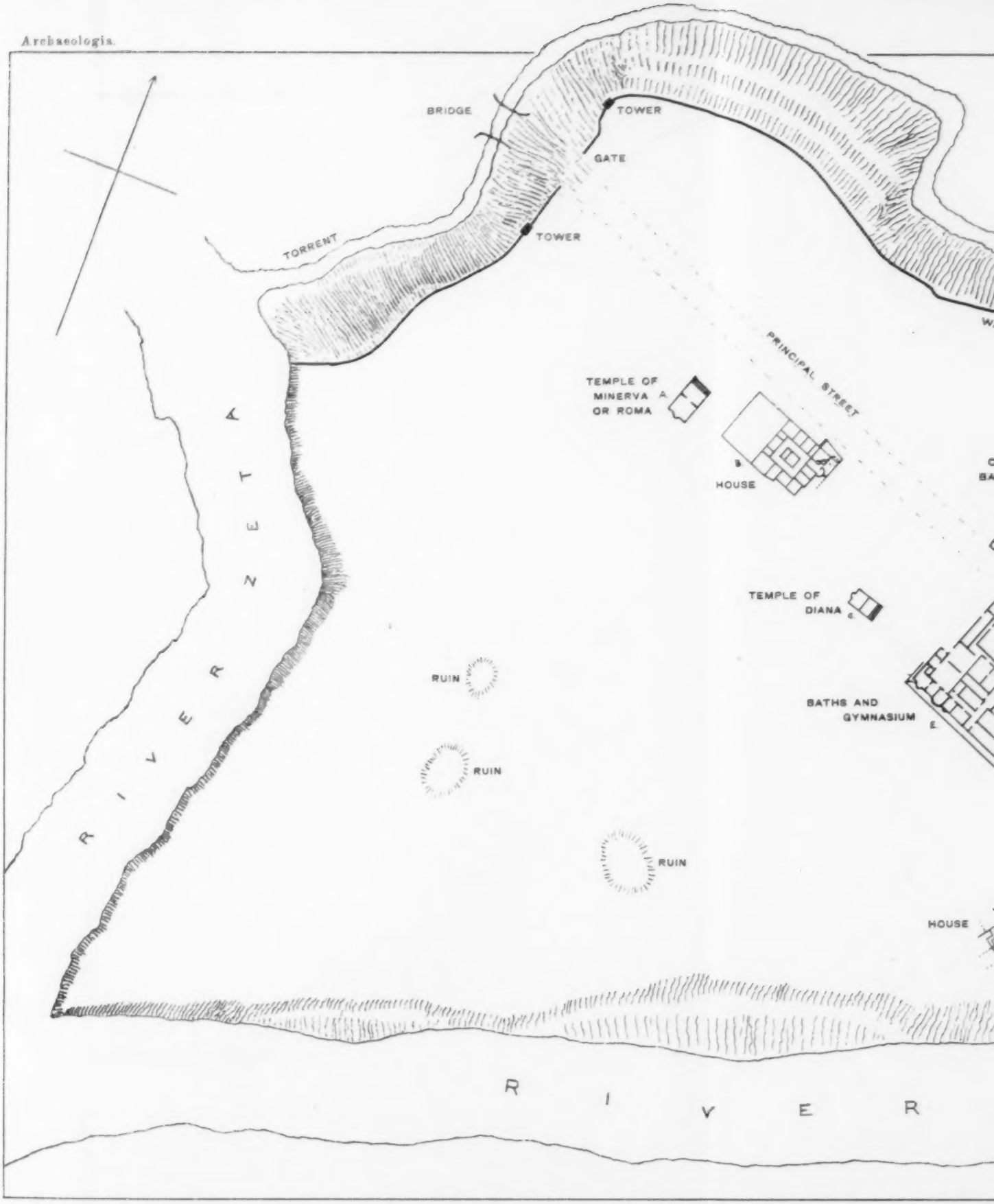
" *Mémoires de la Soc. des Antiq. de France*, lii. (1893), 323. [Based on material supplied by M. Gérard, Rovinski and Nicod.]

Petričević, *bullettino Dalm.*, xiii. 1028.

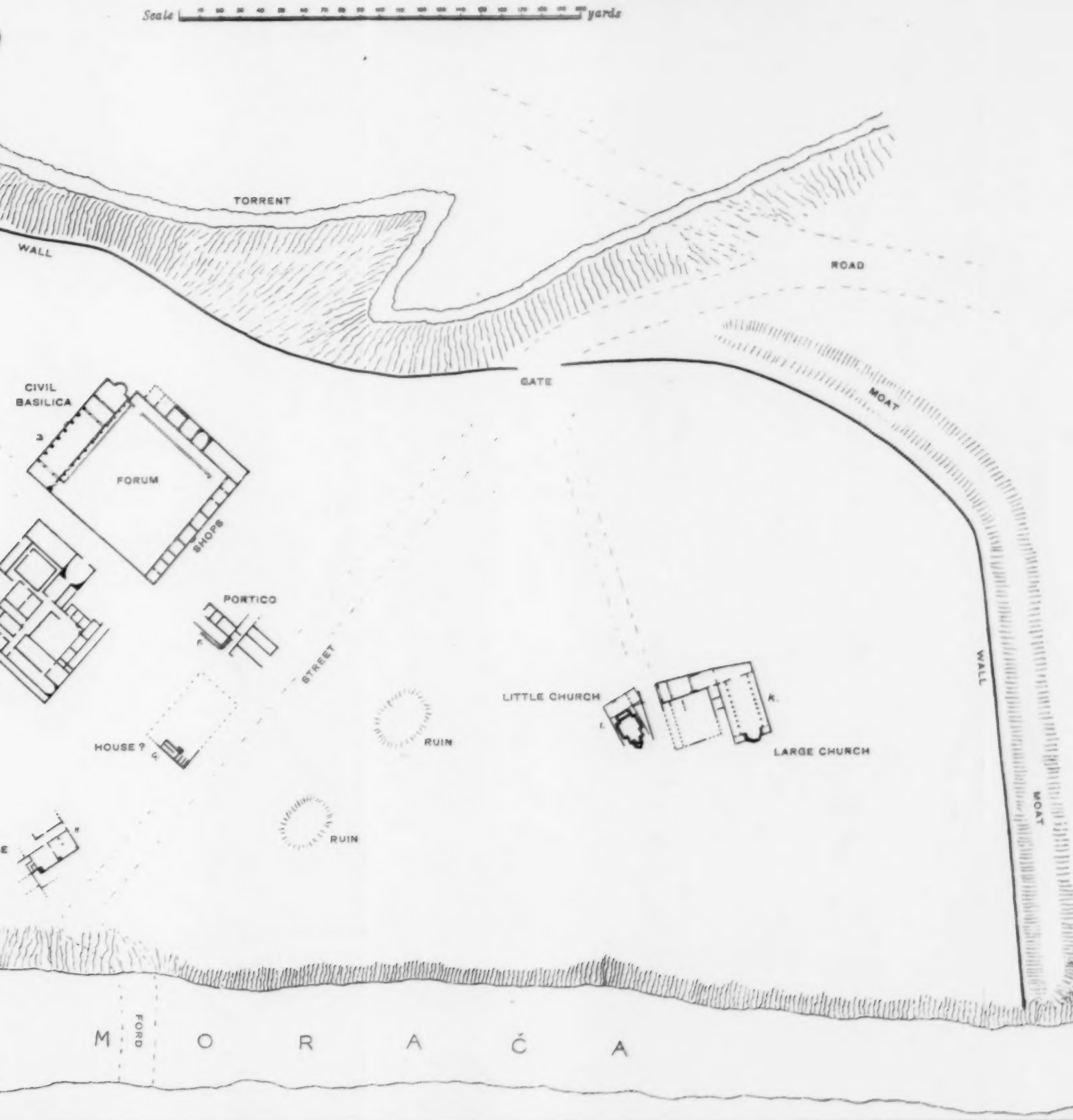
Bulić, *bullettino Dalm.* vi. 66. [Copies by M. Novaković.]

Mowat, *revue archéol.* xliv. (1882), 81. [Copies by M. Saski.]


yards
ROAD
GATE
MOAT
WALL
MOAT
LITTLE CHURCH
RUIN
LARGE CHURCH
A Č A



PLAN OF THE ROMAN T



N TOWN OF DOCLEA IN MONTENEGRO.



IV.—*Notes on the Cathedral Church of St. Cecily at Albi.*

By R. W. Twigge, *Esq.*, *F.S.A.*

Read December 6th, 1894.

"Ce n'est pas seulement une église, c'est un admirable musée."—Chateaubriand.

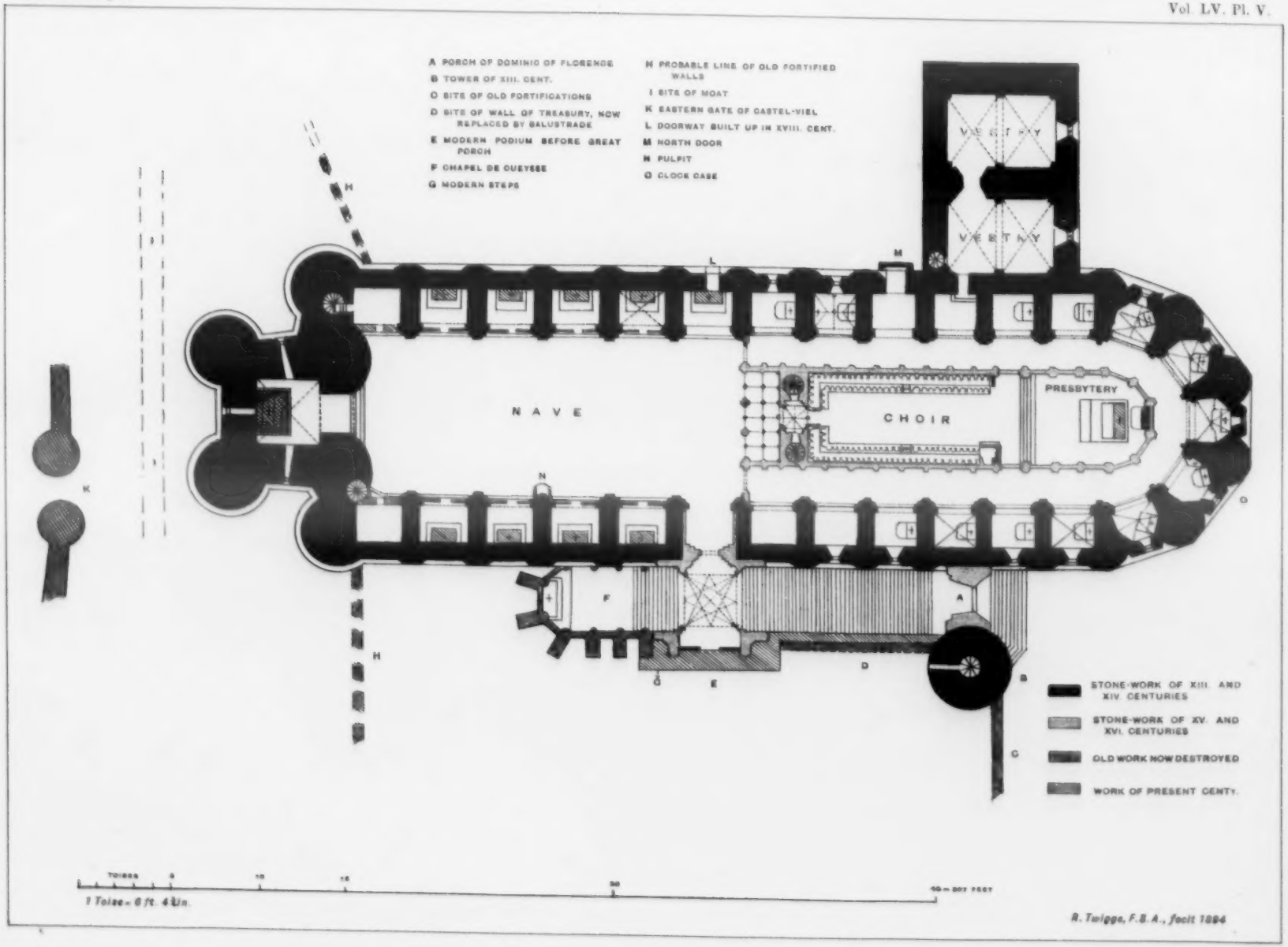
The city of Albi is built on the steep banks of the Tarn, which drains the high table-land sloping gradually from the Cevennes to the vast plain of Languedoc. From whichever side the city be approached the lofty and massive structure of the cathedral church is seen dominating the surrounding buildings. The church, with the adjoining episcopal fortress, crowns the cliff on the left bank of the river. Adjacent to the west end of the church, and occupying the extreme point of the cliff, is the site of Castel-viel, now represented by a group of humble dwellings. Here was once a Gaulish *oppidum*, and later a Roman fort was erected to protect the ferry over the Tarn, which divided the territory of the Ruteni. This bourg was defended by an important fort belonging to the viscounts of Albi, who held it from their over-lords, the counts of Toulouse, and it was isolated on three sides by the ravines through which the Tarn and its tributary stream the Verdusse run, and on the east side by a moat dividing it from Albi. The castle of the viscounts was demolished in 1624, but the moat was only recently filled up. This close proximity of an independent town just outside the jurisdiction of the rulers of Albi, and almost touching their fortress, had an important influence on the structure of the present cathedral church. Few records have come down to us respecting the old cathedral church of Albi. It existed in the ninth century, and was situated "infra muros civitatis" and "in declivi ripae Tarni;" but it fell gradually into complete ruin, and its site was given in 1297 by the chapter to the bishop.[a]

[a] *Histoire Générale de Languedoc* (ed. 1874), v. 1360.

When Bernard de Castenet was appointed to the see in 1275 he resolved to build a new cathedral church opposite the old feudal stronghold of the viscounts. The plan provided not only for the church, with its dependent buildings and residences for the canons and clergy, but also for a strong line of fortifications enclosing them, and connecting them with the enormous fortress, with its mighty keep and walls flanked with towers, designed for the episcopal palace between it and the river. In criticizing the cathedral church as it stands to-day, it is important to remember that it originally formed part of a military fortress; in fact was designed to serve, in case of need, as the keep of its surrounding outworks, and to this idea every detail of its construction was subordinated. The western tower is a veritable donjon. Built over against the eastern gate of Castel-viel, and separated from the walls of that bourg by a narrow ditch, the lower chamber within its massive walls long served as a guard-room, from which watch and ward could be kept through the narrow slit of window, on the territory of the Crown across the moat.

The position of the tower, on the extreme edge of the bishop's domain, prevented any porch or entrance to the church being made at the west end of the building. The great door in consequence was placed at the side, midway in the southern wall, and was approached by a flight of fifty steps from the east end. Another porch, strongly fortified, springing from the apse to a tower at one end of the line of enclosing walls, barred the approach of any hostile force to this flight of steps, which mounted between the lofty walls of the church on the north and the treasury on the south. The latter wall was loopholed for the defence of this passage, the only entrance from without the fortress to the church. Two small doors on the north side gave access from the palace, but these did not require defence. The wall of the treasury and the wall extending southwards from the above-mentioned tower were still standing in 1833.[a] The great cloister (enclosing the cemetery), the chapter-house, treasury, and other buildings connected with the cathedral church on its south side, were protected by walls and towers surrounding an extensive piece of ground. On the north side the sacristy and other dependencies were connected by fortified walls with the keep of the bishop's castle, which likewise stood within an encircling girdle of defences descending to the river. The cathedral church itself stands on higher ground than the castle, its site being over 160 feet above the river, while the castle covers the sloping ground, and has some of its walls and but-

[a] Taylor, Nodier et De Cailleux, *Voyage Pittoresque dans l'ancienne France* (Languedoc, 1833).



GROUND PLAN OF THE CATHEDRAL CHURCH OF ST. CECILY, ALBI.

tresses rising from high-water mark. Such being the original plan, it is natural that the exterior of the church should present an appearance of massive solidity. Its smooth walls, 8 feet in thickness, rising to a height of 107 feet from the ground (since their "restoration" to 134 feet), are pierced with lofty and narrow windows set out of reach of any attack or entrance from without, and are unbroken by flying buttresses, projecting chapels, or other irregular features of outline, which lend such charm to the pointed architecture of the north. With the exception of the porches, the church is built entirely of brick. This material, mellowed by age, and varying in tone from a lovely rose to a dull gray tint, seems to have resisted the ravages of time far better than stone, which would have decayed during the lapse of six centuries; whereas the outer surface of the brick and hard cement used for mortar are to-day as solid as when first erected. The cathedral church, if not quite original in design, was at least uninfluenced by northern architecture in the way that the churches of Narbonne (begun in 1272), the eastern end of Carcassonne, and Bayonne were. These exotics might have been transplanted from beyond the Loire, being examples of the architecture of France, not of Aquitane.

It is possible that the design of Albi may have been taken from the two churches of St. Vincent and St. Michael, which had just been erected in the new *basse-ville* of Carcassonne. At any rate the three are practically contemporary and identical in design, and were the models for a school of architecture in the south, many examples of which may be met with in the provinces of Albi and Toulouse. The peculiarity of this style consists of a single nave, ending in an apse, without transepts, aisles, or a structural chancel, the vault being supported by massive buttresses, between which the side-chapels are placed. There is no doubt that this style was admirably adapted for the use of brick, and the scarcity of building stone in Languedoc caused it to be extensively adopted. At Albi the buttresses project but slightly beyond the walls, and present a semi-elliptic form outside, thus avoiding exterior angles, which would be the first part liable to decay in brickwork. They are carried up, tapering somewhat, to the tiled roof.

Towards the close of the fourteenth century, the idea of a place of defence had become of less importance with the builders, who accordingly left the top of the walls unfinished, and even pierced them below the clerestory, by opening out several clumsy lancet windows, in order to give more light to some of the chapels round the apse. Already a tendency to ornament the building appeared. The outer galleries of the tower were adorned with a stone balustrade pierced with quatrefoils. The great portal of stone was commenced under Louis

d'Amboise about the year 1500. In the closing years of the fifteenth century, the general severity of style of the interior was corrected by the erection of the choir screens, and the completion of the painted decorations of the walls and vault followed. The great western tower, rising to a height of 256 feet, measured from the exterior level of the apse, and over 420 feet above the waters of the Tarn, is composed of three square retreating stages, surmounted by a double-storied octagon. The lowest stage reaches as high as the roof of the nave, and each has an outer gallery running round three sides. At the eastern angles two round turrets, tapering at each stage of the tower and octagon, ascend as high as the top of the latter, to the north-east and south-east sides of which they are united by curtain walls, thus giving an air of great solidity to the whole. The tower was finished up to the roof of the nave by bishop Guillaume de la Voulte (1383-1386), and completed by Louis d'Amboise, probably before 1480, when the stone parapets, pierced with quatrefoils, were added to the galleries outside, to the top of the octagon, and as crowns to the two round turrets, where each panel is composed alternately of a rose and fleur-de-lys. It was the custom of the canons in the seventeenth century to illuminate the tower, on the eve of St. Cecily, by thousands of torches placed on the exterior galleries.

Several bishops of Albi, who were natives of Italy, brought to their new home the artistic and literary tastes of their mother country. The first of them, Dominic of Florence (Bishop of Albi 1379-1382, and again 1397-1410, then translated to Toulouse, where he died 1422), inaugurated a richer style of architecture in the beautiful stone gateway, surmounted by machicolations and battlements, which he erected at the foot of the steps in 1380. It springs from the south side of the apse, uniting it with a round tower of brick, the last remnant left of the old fortifications. This tower, since the "restoration," has been considerably lowered in height and new battlements put on it. The statues and bas-reliefs on this gateway were, for the most part, destroyed during the Revolution; but happily a manuscript account of the church, written in the year 1684,[a] contains a minute description of this portal, which has been carefully restored from the particulars given therein. The tympanum is pierced with open tracery, and in the centre is a niche containing the statue of St. Cecily, over whom hover two angels holding a crown. On her right kneels the donor presented to her by his patron, St. Dominic, with these words, inscribed on the sleeve of the saint, "Hunc

[a] *Description naïve et sensible de la fameuse église Sainte Cécile d'Alby par Bernard de Boissonade, docteur et avocat au Parlement de Thoulouse* 1684 (edited with notes by Eugène d'Auriac, 1857).

tibi dono, mater, quem dudum alui pater." Bishop Dominic has the inscription, "O Alma sancta Cecilia, sis mihi queso propitia." On the left of St. Cecily stands St. Mary Magdalene, with a vase in her hands. On each side of the door are three niches containing statues in the following order, from the doorway outwards, while above the canopy of each niche is a much smaller figure. On the dexter side:

1. St. James the Great. Above him is St. Louis of Toulouse (canonized in 1317) seated, and vested pontifically, but without crozier or staff, to show that he had no jurisdiction at Albi.

2. St. Pons. Above is a canon of St. Cecily kneeling, with his amess over his arm.

3. St. Thomas Aquinas, "avec le soleil, qui fait le symbole particulier de sa science et de ses lumières, qui ont éclairé tout le monde de sa doctrine, au milieu de l'estomac." Above is St. Bernard seated.

On the sinister side:

1. St. John the Evangelist. Above him is St. Salvi, seated.

2. St. Tiburtius (or St. Valerian). Above is a canon kneeling, with amess over his arm.

3. St. Peter of Verona. Above is a Dominican friar, seated, holding a book.

The arms of bishop Dominic, a battlemented tower with the portcullis down, surmounted by a label of three points, appear on two shields placed within quatrefoils, below the machicolation of his gateway. It is repeated on a shield supported by two hounds, "Domini Canes," on each side of the door, below the pedestals of the central statues, and again, under the pedestal of St. Cecily, where it is supported by two angels.

Under the pedestal of St. Dominic is a crouching figure, probably intended to represent a heretic. A similar figure is under St. Mary Magdalene. Several small carvings escaped destruction. On the keystone of the inner arch moulding, above the tympanum, is a small seated figure of the Almighty, holding an orb. On the keystone of the middle arch, within a quatrefoil, is the Crucifixion with St. Mary and St. John; and on the keystone of the outer arch is the coronation by an angel of Our Lady seated on the right hand of Christ, who holds an orb, and has the right hand upraised in blessing. This group is supported by an angel with outspread wings.

Within this gateway is a large canopied niche on each side. Both are now empty. The corbel supporting the one on the north side is carved with the figure of a deformed man covered with hair, crouching down with his chin resting on

his knees, and a staff in his hand. The corbel opposite represents a woman with deformed legs in a similar attitude. Perhaps these two figures were types of the beggars frequenting the steps (still a favourite haunt for mendicants) at the time when the portal was erected.

Ascending the fifty steps, "aussi doux que le repos même," we reach the great porch of three open arches covering a square platform before the south door. At the angles four massive piers (two of which are engaged in the walls of the nave) support a beautiful vault of complicated design. Above each arch is a *façade* of two stories, in each of which the main features consist of two open arches separated by a central pier adorned with a niche. A pyramidal canopy crowns the whole. All the details are in the richest flamboyant style, and the doorway forming the north side of this truly triumphant arch is in keeping with it.

The great cloister and cemetery were formerly entered through the southern arch of this porch, and a small door near it gave access to the chapter-house. The southern arch is now railed in, and a modern podium erected before it, as the ground outside has been excavated to make a new road across the old cemetery. On the western side, opposite the steps, was a large chapel founded in 1521 by Maître Cueysse, a canon of St. Cecily, from whom it took its name. It was built against the south wall of the church, extending westward the length of two bays of the nave, and consisted in itself of four bays, with a three-sided apse at the west end. The entrance to it was through the western arch of the great porch, from which it was railed off by an iron balustrade. De Boissonade states that this chapel was celebrated for the beauty of its roof, the vaulting being composed of a number of small arches most artistically elaborated, and united "en forme comme d'un petit labyrinthe." At the Visitation made by the archbishop in 1698, this chapel was found to be well built and vaulted, paved with brick, and whitewashed. Destroyed at the Revolution, its removal so injured the stability of the great porch that the vault of the latter fell in. The arches and piers of the latter had to be protected by iron clamps, and it was altogether in a ruinous condition when its restoration was undertaken in 1850. This was faithfully and successfully carried out, casts being taken of all the old sculptured stones remaining, and the new work inserted stone by stone in place of the old. It was an open question at first, whether the porch had ever been vaulted, but the discovery of some ribs of the ancient vault, and of three pendentive keystones (two being found in a neighbouring garden, and the third at the mill near the bridge) decided the question. They were in sufficiently perfect condition to enable the architect to carry out the original design of the vault, without drawing on his imagination for the details. A flight

of steps westward from the great porch now covers part of the site of the chapel de Cueysse.

The statues from the niches of the façades of the porch and doorway had long since disappeared, and there is no record of the saints they represented. The new statues are of local saints, three bishops appearing in the lower story, and three virgins on the upper story of the façades. On the east side are St. Salvi and St. Carissima. On the south St. Amarand and St. Sigolena; and on the west St. Eugene and St. Marciane.

The door itself is about 12 feet in height, and over it is a slightly-curved lintel, supporting some elaborate flamboyant tracery, which fills the upper part of the archway, and now forms a window. This tracery had been plastered over in the last century, and concealed from within by a heavy wooden screen, which also hid the stone carvings continued in the same pattern on each buttress wall within the entrance. These disfigurements were removed and glass inserted in the tracery openings, so now the entire bay of the nave occupied by the main door is visible in all its richness. In the niches outside the entrance were placed statues of the Blessed Virgin, in the centre, under a lofty canopy over the door, attended by two ranks of the blessed. In the upper row on the dexter side are SS. Anne and Paul; with SS. Joseph and Peter on the sinister side. Below are the four patrons of the chief churches of the four archpresbyteries into which the modern diocese of Albi is divided, SS. Benedict of Castres and Michael of Gaillac, opposite SS. Alain of Lavour and Mary Magdalene. In the smaller niches round the arch are figures of twelve angels, holding twelve instruments of the Passion. The sculptor has filled the curved niches in a clever manner with the angels' wings.

On the great porch are shields sculptured with the arms of the cardinals Aimar de Gouffier (1528), Antoine de Prat (1536), and John of Lorraine (1550), and hence it seems as if this porch had not been finished till the episcopal rule of the last-named cardinal, although it was commenced before 1502.

It is necessary to refer briefly to the deplorable "restoration" of the exterior of the church, begun in 1850. This is the more to be regretted since it was the work of the same architect who so efficiently and faithfully restored the great porch and the gateway of bishop Dominic. A solitary turret crowned the buttress at the south-eastern corner of the apse. It had been erected here, as the point nearest to the city, to contain the bells of the clock, so that the chimes might be heard more distinctly by the inhabitants, than if placed in the western tower. The sight of this turret unfortunately inspired the architect with the idea that it had been part of the original design to erect similar round

turrets on all the buttresses! One of the principal works of "restoration" was that of providing a new roof, and adding to the unfinished walls their proper crown.

Indications of a machicolated gallery, with which it had been intended to crown the outer walls, were found *in situ;* but the completion of this design had been stayed, from some cause or other, in the fourteenth century, when the walls were left unfinished, with the eaves of the tiled roof projecting over them. The plans prepared in 1850 provided for the erection of turrets, with hexagonal pyramidal roofs, on the tops of the old buttresses, the raising of the outer walls to nearly 23 feet above their ancient height, the crowning of the new wall with an arcade copied from the fifteenth-century work on the tower, and the placing of a balustrade pierced with quatrefoils on the top of this arcade! The new parapet and five new turrets round the apse were accordingly erected, and an old turret at the south-western corner adjoining the tower was restored to match the others. Only six of the remaining turrets have been carried up halfway above the balustrade, and they seem likely to remain in their present condition. The measurement of the new work superimposed on the ancient walls and buttresses comes to a total of 76 feet in height. As the original height of the old walls, measured from the bottom steps outside the gate of Dominic of Florence, was only 107 feet, the difference made by this lofty addition, and its effect in dwarfing the tower, can be easily conceived. The western tower is now no longer in proportion with the new elevation of the church. Formerly it rose imposingly 148 feet above the roof; but this altitude being now reduced by the new work to 72 feet, it appears stumpy and unfinished. The mistake thus made was more than stupid, as the persons responsible for the so-called restoration had only to turn to the neighbouring keep of the episcopal palace to find the proper battlement for the wall of the cathedral church, or if that were too plain, then to the Dominican church at Toulouse, for a coping slightly more ornate in design and a few years later in date. There can be no doubt that the original plan of a fortified church should have been carried out, in keeping with the other parts of the building, and the existing walls completed by a low battlemented superstructure, following the lines of the buttresses. The new turrets and pseudo-fifteenth-century arcade, placed on the original thirteenth-century walls, are meaningless and out of place.

Some attempt at preserving the fortified enclosure should have been made. Unhappily there was a craze some forty years ago for sweeping away from any old city church its surrounding buildings. The presence of these ancient adjuncts

had in many cases been taken into consideration by the builders. At Albi they had been specially provided in the original plan, and set forth the architectural proportions and value of the church. The treasury, the lofty walls of which united the lower to the upper porch, the charming chapel of canon Cueysse protecting the great doorway from the icy blasts sweeping over Castel-viel, the cloister with its houses for the canons, the ramparts and towers, and even the burial-ground with its memorials of six centuries, have all been pulled down and removed. As late as 1869, the old "Place aux Herbes," with its timbered houses, and the picturesque street leading from it to the gateway of bishop Dominic, were still standing, but have been pulled down since that date, thereby causing this entrance to lose all its architectural value. The porch now stands alone, projecting from the wall of the apse and united to the solitary circular tower reduced to half its former height, the sole relic left of the encircling line of ancient walls, while the raised ground within them has been removed in order to fill up the moat. Thus the great church stands solitary, despoiled of its ancient surroundings on the east and south, in the midst of a bare and vacant place, swept, indeed, but no longer garnished.

The interior is strikingly effective by its grand simplicity. Looking eastward, this immense nave with its five-sided apse presents no surface of wall-space save the lofty piers supporting the vault. The length internally is 349 feet, and the breadth 63 feet 6 inches, but the side-chapels between the buttresses increase the width of the building by 28 feet 6 inches. They are nearly square in shape (save round the apse) and vaulted, and are separated from the nave by pointed arches. Above each chapel is a lofty tribune, or gallery, lighted by the tall windows of the clerestory, and likewise opening on to the nave through a pointed arch. The tribunes are connected by narrow and low openings through the thick dividing walls. These galleries were probably protected from the nave by a low battlemented wall, before the existing balustrade of pierced stone-work was erected at the close of the fifteenth century. In the event of an enemy's forces gaining possession of the floor of the church, they could still be effectively attacked from above, as access to these tribunes could only be gained after taking by storm the two narrow spiral stairs which lead up to them, one from the sacristy, the other from the west end of the nave.

Each window of the clerestory is divided by a transom into two lancet-headed lights containing trefoil tracery. Above them the upper part of the window is filled with circular tracery containing various designs. Some fragments of magnificent stained glass of the fifteenth century have escaped destruction, and

form a wonderful contrast to the hideous modern glass which has been placed in the windows of the apse.

The whole of the interior is covered with paintings, not a single bare brick being visible.

The paintings which cover the vault (executed 1502-1512) form the greatest work of the kind ever undertaken, and are without a rival. Their preservation and brilliancy of colour are alike remarkable. On a clear blue ground, divided into compartments by the golden ribs of the vaulting, the figures and scenes depicted seem as fresh to-day as when they left the brush of the Italian artists who painted them nearly four hundred years ago.

These artists, of the schools of Perugino, Francia, and Pinturicchio, are unknown to fame save by their great work here, and they have left on it no record of their identity. A few names, inscribed on the walls of the tribunes and elsewhere, are the only personal records left behind; and these occurring where the paintings are merely patterns and geometrical figures executed coarsely and roughly, so as to be effective when seen from below, were most likely the work of apprentice hands who signed their own inferior work, while the masters engaged on the pictures of the vault have left no mark whereby they can be identified. No name or indication is to be found amid the delicate arabesques of the vault, and we shall never know who were the painters of this golden page of beauty. There is a noteworthy difference of touch in the paintings on the piers and vault at the east end of the church, and in those of the five western bays of the nave. At the death of bishop Louis d'Amboise II. in 1510, the artists must have been changed under his successor, Charles de Robertet, as the distinction of style is clearly marked between the artists employed by the former prelate, who have dated their last picture "1511," and those who took their place and achieved the whole in 1512. The paintings by the latter are inferior in drawing and colour, and coarse in comparison.

The extraordinary brilliancy and depth of the blue used by the painters of the vault has given rise to various conjectures as to the composition of this colour, but it has now been discovered from chemical analysis that their blue was made from carbonate of copper, being obtained from the precipitation of salts of copper by carbonate of potassium. For a long time it was supposed that the artists had made use of the woad, formerly cultivated on a large scale in the neighbourhood of Albi, in the preparation of their blue pigments.[a]

[a] Hippolyte Crozes, *Monographie de la Cathédrale de S. Cécile d'Albi*, 1873. Appendice, c. vii., p. 333.

The pictures of the five tribunes of the apse and the eastern vault over the choir were "restored" in 1861, by Denuelle of Paris. This work is stated to have been absolutely necessary at the time, and allowing for a certain hardness and deadness of effect by the side of the older paintings, seems to have been well executed. During the progress of the restoration an interesting discovery was made of some earlier paintings, which had been preserved under the protecting coat of plaster of the later ones. These consisted of the figures of various saints in the style of the fourteenth century, while on the vaults of the tribunes appeared the arms of Berauld de Fargis, bishop of Albi from 1314 to 1334. This prelate was a great benefactor of his church, and in his will he orders that the six chapels of the apse should be completed and adorned at his expense. Drawings of these earlier paintings were made, but it is to be regretted that they were not allowed to remain exposed, instead of being again covered by the new and tasteless designs placed over them.

On the brilliant pages of the open "book for the lay folk" depicted on the vault are various scenes from the Old and New Testaments, the prophets and types of the old law in their connection with the Saviour and the saints of the new dispensation. Here are found several personages from the "Liber Generationis Jesu Christi," the series beginning with Jechoniah; the Patriarchs and other holy men and women, with scenes from their lives; the Virtues, the Sibyls, and many Martyrs, Confessors, and Virgins; while down the centre are various groups of figures showing forth incidents recorded in the Gospels. The arrangement of the paintings is given in the Appendix to this paper.

At the west end of the nave is the earliest and largest painting in the church (49 feet high). It now covers the massive semi-circular piers supporting the tower, and before 1693 also covered the wall space between them. The subject is the Last Judgment. It was painted in oils on the brick surface about 1400—1410, and is evidently the work of a French artist, inspired certainly by Danté, and perhaps by Orcagna, though the treatment differs in detail from the existing works by that painter. A tiny door in the western wall formerly gave access to the vaulted guard-room at the base of the tower, and did not interfere with the great "Doom" which is placed above a dado at the height of six feet from the floor. At a period when Gothic art was despised, this important work suffered an odious mutilation, the central part being utterly destroyed by archbishop le Goux de la Berchère (1687—1703), when he caused the wall between the nave and the chamber in the tower to be pierced with a wide and lofty arch in order to turn the latter into a chapel dedicated by him to St. Clair, the legendary

first bishop of Albi. This act of vandalism destroyed the figure of the Sovereign Judge, the accompanying figures of attendant angels about the throne, and doubtless also those of our Lady and St. John the Baptist, who usually appear in similar representations of this subject. From the lateral portions of this vast page of medieval art which were spared, we can form some idea of the general design of the composition of the picture. The conception of the scene is intensely Gothic in feeling, and grandiose in effect. The figures bear no resemblance to the early Italian schools of painting, except in the general features of the heads, which approach nearly to the style of Giotto and his pupils. This is particularly noticeable in the same almond-shaped eyes placed too near the nose in each face, a peculiarity also common to the school of Siena. No Italian artist would have left on the north side that great dark space (a symbol of outer darkness) void of any figures to counterbalance the serried ranks of the blessed on the right of the throne. The persons prominently represented among the elect are of French nationality, the heads of Charles the Great, St. Louis and his mother, Queen Blanche, being especially fine. The idea of placing the twelve apostles side by side, seated on the same Gothic bench, and clothed alike in simple white robes is also strikingly original.

The lower part of the picture is divided into seven compartments, wherein are represented the pains of hell peculiar to each of the seven deadly sins. An explanatory inscription in old French is beneath each scene,[a] while in a band running below and forming a border the artist has repeated thrice, intending to convey thereby the despair of the damned, the touching verse adapted from the book of Ruth: *Ne vocetis . nos . Noemi . id . est . felices . sed . vocate . nos . Mara . id . est . amaritudine . plenos . Ruth . primo.* Above this predella of the torments of hell the dead are seen rising from their graves at the trump of Doom. Naked and trembling, each one holds before his or her breast the open book of the record of good and evil done during life. The Just appear on the south side; some are mounting upwards, and near them is an archangel vested in crimson dalmatic blowing a trumpet, about which is entwined a scroll bearing the word *Surgite.* Between the just and the saints seated in rows above is another scroll inscribed, *Vidi . mortuos . magnos . et . pusillos . stantes . in . conspectu . throni . et . libri . aperti . sunt . et . alius . liber . apertus . est.* Beyond the ranks of the Blessed are the twelve apostles in white, with gold nimbi, seated on a bench, and above them is a group of angels.

On the north pier is another archangel in white, with a trumpet, out of which

[a] Owen, in *Études historiques sur l'Albigeois*, by Clement Compayré, 123 *et seqq.*

proceeds a scroll inscribed, *Venite . [ad judi]cium.* He turns away from the wicked, who are rising from their graves with open books in their hands. They do not stand upright like the just on the opposite side, but sprawl down and cower away into the hell below. Above them is a scroll (now mutilated) inscribed, ". . . . . *que . scripta . erant . In . libris . secundum . opera . Ipsorum . Apocalipsis . vicesima,*" and over it is the vacant dark space crossed as by a lightning flash by a narrow wavy scroll inscribed, ". . . . . *in . ignem . eternum . qui . paratus . est . diabolo . et . angelis . ejus . matthei . xxv.*" At the top is a group of angels similar to the opposite group on the southern pier.

The upper part of this Doom was still further injured by two caryatids being affixed to its surface in order to support the projecting portion of the new organ erected over it in 1736. One of them is driven into the wall through the heads of some of the apostles.

Du Mège states that he saved this interesting painting from total destruction, and also the pictures on the vault from being repainted, in 1824, while acting as commissioner to report on the antiquities of the south of France.[a]

The paintings in the chapels come next in chronological order, but any detailed description of them would far exceed our space in these notes. A mere list indicating the most interesting paintings must suffice for the limits of this paper.

Commencing with the first chapel, east of the screen, on the north side, and proceeding thence round the building, the following summary will serve to indicate these treasures of pictorial art. The older dedications are taken from the Visitation made in 1698. In comparing these with the later ones many unfortunate alterations and consequent changes in the original decoration cannot fail to be noticed :

I.—St. George, rededicated in 1840 in honour of St. Amarand. Arabesque vault with medallion of St. George. Heraldry and inscription of the time of Louis XII.

II.—St. Christopher, now St. Carissima. Medallions on vault of SS. Cecily, Valerian, and Christopher, amid arabesques and groups of angels. Dated 1511.

III.—Bay before north door. On angles of vault the four doctors of the Western church. SS. James and Sigolena over door. Shields of bishop Charles de Robertet. Dated 1513. Facing choir on spandrels of arch, the vision of St. Joachim, and the meeting of SS. Joachim and Anna.

IV.—Entrance to sacristy. Heraldic devices of bishop de Robertet. Jacob's dream and

[a] Société Arch. du Midi de la France. *Mémoires*, vi. (1854).

Jacob building the altar. Nine figures of prophets and apostles on walls. On wall adjoining door two portraits of canons. Date 1512.

V.—Holy Sepulchre, now of the Guardian Angels (1824). Paintings on walls by an Italian artist, about the year 1500. The betrayal by Judas; Christ appearing to St. Mary Magdalene; the Cross-bearing; the Resurrection. The landscape backgrounds are very beautiful. On vault, Christ in glory accompanied by six angels holding instruments of His passion. Painting of Crucifixion on east wall obliterated by modern work.

VI.—Holy Cross, contains the finest paintings. About 1472. Two series of events on walls: in upper row the victory of Constantine over Maxentius, and its preceding scenes; in lower, the history of the discovery of the Cross by St. Helen. Costumes and armour of time of Louis XI. Two paintings on east wall concealed by eighteenth century altar-piece. Below the paintings on the north wall are life-size portraits of cardinal Jean Jouffroi and his two nephews accompanied by their patron saints. They lie buried in this chapel, the cardinal and Heliundus under a beautiful canopied tomb erected by Louis d'Amboise, his successor in the see, and Henry in the ambulatory just outside. The effigies in marble were destroyed at the Revolution, and in their place now stands the fine statue of St. Sebastian of early sixteenth century workmanship removed from his chapel in the nave. In the spandrels facing the choir are medallions of St. Helen and Constantine.

VII.—SS. Michael and Martial. Paintings 1473-1510. On vault figures of SS. Michael, Raphael, and other angels. An angel on each of the four walls in "grisaille."

VIII.—SS. John Baptist and John Evangelist. Paintings of the appearance of St. Gabriel to Zachariah, the baptism of Our Lord, St. John reproaching Herod, Salome demanding his head; the condemnation of the Evangelist by Nero, his martyrdom at the Latin Gate, and his assumption by angels. All have been ruined by repainting.

IX.—St. Mary Major (the central chapel of the apse), disfigured by stucco work of the year 1777, behind which the original paintings probably remain, together with the work erected in 1493 by Louis d'Amboise, who was buried here.

X.—SS. Peter and Paul. Early sixteenth century paintings emblematic of the Church and St. Peter's headship thereof, and the Sacrifice of the Mass. Many inscriptions in Greek and Latin explain the various scenes depicted. On the walls are the calling of Peter and the conversion of Paul, each in two compartments. Over the altar the condemnation of the two apostles by Nero.

In this chapel is a fine oil painting by Blanchard, signed and dated 1628, representing the infant Christ on the knees of His Mother delivering the keys to St. Peter. This is the only movable picture of any value in the church.

XI.—SS. James Major and Minor, now to St. Diogenian (1833-1843). Beautiful paintings of the school of Pinturicchio, representing SS. James the Great, James the Less, Philip and Simon. Arabesques on vault with arms of d'Amboise.

XII.—Our Lady of Pity, now St. Bartholomew. The heads of the Blessed Virgin and St. Gabriel appear above the modern picture over the altar. On the west wall is the tomb of Our Lord with an angel seated on it, and the holy women bringing spices to embalm His body. Figures of

SS. Martial, Katherine, Mary Magdalene, and Salome in "grisaille." Arms of d'Amboise on vault and in window.

XIII.—SS. Lawrence and Faith, now dedicated in honour of St. Francis of Sales. Paintings of St. Lawrence above altar (now concealed by modern picture) and on west wall of St. Blaise. At sides of window figures in "grisaille" of SS. Cecily and Valerian. Arabesques and arms of d'Amboise on vault.

XIV.—Our Lady of Pity and St. Stephen. Very interesting paintings, untouched and now in ruinous condition, of the Mother of Sorrows over altar, St. Stephen on south wall, and St. Mametus on west wall. Vault, with medallion of the Almighty amid arabesque work, dated 1510. Above the altar stands an early sixteenth century figure of the "Ecce Homo" carved in wood, probably removed from the nave. On spandrels of arch, facing the choir, are medallions containing (1) St. Veronica holding the napkin, whereon is depicted the face of Our Lord; and (2) An angel holding a label inscribed, *Salve Sancta Facies.*

XV.—The three Kings, now St. Francis of Assisi. Coarsely painted designs, containing symbols of evangelists with inscriptions, the planets, etc. Dated 1512, and signed IOA FRACISCVS DONEIA | PICTOR ITALVS DE | CARPA FECIT.

XVI.—SS. Salvy, Amarand, Sigolena, Carissima, and Martiane, the five saints of the diocese. Now used as receptacle for chairs. Medallion containing figure of St. Michael on vault, and inscription on cornice from Graduale of Mass on May 8. On pilasters the signs of the zodiac. Painted by Doneja, and signed as XV.

XVII.—St. Radegonde, whose half figure appears in medallion of vault. Dated 1514. Now desecrated.

Passing through the south door of the rood-screen, the first bay west of it is occupied by the great doors of the southern portal. The altars in the chapels of the nave were placed against the exterior walls, and not orientated.

XVIII.—All Saints, rededicated in honour of St. Loup after the destruction of his church in Castelviel. The paintings have very effective architectural designs, containing figures of SS. Andrew, George, and Luke, and half-figures in medallions of SS. Augustine, Francis of Assisi, and Helen on the east wall; and on the west SS. James the Great, Roch, and Jerome, and medallions of SS. Dominic, Peter Martyr, and a female saint. All have been coarsely repainted. There are probably other paintings behind the huge classic reredos.

XIX.—St. Sebastian, now St. Pius V. Geometrical patterns.

XX.—St. Bartholomew, now St. Stephen. An interesting painting (by a Burgundian artist?) was uncovered in 1872 on the south wall. It represents Christ dead on the cross, accompanied by figures of David, Solomon, Isaias, and Zacharias, holding scrolls inscribed with their prophecies. Above the cross two angels support a four-lined inscription. These scrolls are all in Gothic characters. On western wall, St. Ursula and nine virgins, opposite St. Paul on the east. A figure holding scourge in medallion on vault.

XXI.—Holy Innocents, now St. Lawrence. Group of children on vault. Date 1513.

XXII.—The three Marys, now a lumber-room.

XXIII.—The chapel under the tower, dedicated in honour of St. Clair in 1700, with paintings of that date, now contains choir organ.

XXIV.—Never dedicated, now walled up.

XXV.—Early dedication not known. Chapel of the Crucifix when XX. was rededicated in honour of St. Bartholomew. Now to St. Martiane.

XXVI.—SS. Cosmas and Damian, who appear on spandrels facing nave. Now to Our Lady of the Rosary. Altar-piece removed from chapel of St. Clair (?).

XXVII.—SS. Margaret and Amans, now to Sacred Heart. Vault dated 1513.

XXVIII.—St. Anthony, now St. Joseph. Two medallions of SS. Anthony and Roch.

XXIX.—Bay containing north door, walled up. Paintings of eighteenth century.

These four chapels on the north side of the nave have been "restored" and spoilt.

The choir was inclosed about the year 1485, during the episcopate of Louis d'Amboise I. and its walls were built by one of those wandering companies of "workers in stone" who travelled over Europe, offering their services to the various princes and prelates. These, when in need of such workmen, gladly had recourse to their talents and artistic training.

The various associations issuing from the school of masons at Strasburg, during the fourteenth and fifteenth centuries, formed separate schools until they were united into a sole corporation at a general meeting of their members held at Ratisbon, about the year 1452, by Jodocus Dotzinger of Strasburg, who established the "Confraternité de Tailleurs de Pierre" as a distinct body from the masons.[a] One of these companies of sculptors existed in the fifteenth century at the Court of Burgundy, where their works united the tendencies of the artistic schools of France and Flanders with a strong mingling of German feeling. The choir of Albi was evidently designed and erected by members of this Burgundian school, as the details and statues bear a close resemblance to similar work at Dijon. Their work here is without doubt the richest specimen of the most exuberant period of flamboyant Gothic architecture in existence. Erected at a date when this style in France was still uninfluenced by the Renaissance revival of Italy, it has been preserved most fortunately to the admiration of posterity as a specimen, almost intact, of the religious art of the closing years of the fifteenth century. The admiration it excited in cultured minds saved it from destruction during the devastations committed at the Revolution, as well as from the more cold-blooded vandalism of the present age, when it was actually proposed by the newly restored ecclesiastical authorities to sweep it away entirely! The white

[a] Didron, *Annales Archéologiques*, viii. 185.

chalky stone, of which the screens are built, is soft when newly extracted from the quarries at Lombers, ten miles from Albi, and so lends itself to easy cutting, but after exposure to the air rapidly hardens. It is to this facility of carving the stone that we owe the multitude and variety of minute details in the screens. The eye never wearies of examining the graceful design, the beauty of moulding, the lace-like decoration, and the realistic statues which adorn the walls.

The rood-screen stretches across the church from wall to wall, and is pierced by three doors, the central one giving access to the choir, and the others to the rather narrow ambulatories between the side screens and the chapels. There are also two side entrances opening on to the presbytery, which have preserved their original wooden gates with their exquisitely carved locks.

The width of the rood-screen is 23 feet in the centre, where a vaulted porch divided into three bays stands before the entrance to the choir. There are no traces of altars at the sides of this doorway, though there is space on either side under the vaulted canopy for a small altar. The pendent keystones and details are of great beauty and richness here. Immediately within the portal two small doors, most elaborately carved, open on the staircases leading to the top of the screen. This gallery was used by the singers.

In 1792 all the statues on the western side of the rood-screen were removed or destroyed, save those of Adam and Eve, who found favour in the eyes of the republican clubs to whose use the nave was given up, the choir only being reserved for the "constitutional" services. The screens inclosing the latter would have been demolished also, if the local authorities had not been prevented by an order from the Minister of the Interior (9th December, 1792). The town council, however, resolved that the altars and font in the nave should be swept away, and the paintings on the vault effaced, as unworthy of the temple of Reason. Owing to the expense of erecting scaffolding for the purpose of whitewashing the vault the latter design was not carried out.

The great rood of gilded bronze had been already destroyed. It was suspended from the roof by an iron chain, ornamented at intervals with bronze globes. Through the midst of one of these balls was an horizontal aperture so adjusted that at the seasons of the two equinoxes the first rays of the morning sun shining through the window of the tribune over the central chapel of the apse passed through this opening and shone on the western wall of the nave.

The present crucifix is poor in design and far too small for its position. The old statues of SS. Mary and John have been placed beside it, and some smaller

figures restored to the niches; but fifty vacant pedestals show the number of statues wantonly wrecked.

Above the door of the south portal leading into the ambulatory, on the eastern side, is one of the finest pieces of sculpture in the church. The scene represented is the Annunciation, and it is treated in an original manner.

In the screen enclosing the choir and presbytery are thirty-five bays filled with elaborate tracery, which is open in the thirteen bays east of the stalls. Against the dividing columns are statues representing the prophets and other characters from the Old Testament. They are painted and gilt, and stand about 4 feet 7 inches in height. These figures are excellent examples of flamboyant art. Their draperies are carefully studied, even in the most minute folds; and the expression of their faces and the action of their hands are extremely realistic. Most of them hold scrolls inscribed with texts, by which it is easy to identify them when the name does not appear on the pedestal.

On entering the choir by its western door two small angels will be found in niches against the innermost arch moulding. These are the sentinels of the angelic host within, who line the walls on either side, as well as the eastern side of the rood-screen. In their midst over the doorway and facing the altar is the beautiful statue of St. Cecily crowned with lilies, and holding organ and palm, the gift of Charles de Robertet (1510—1515). Her eyes are closed, and the head is bent slightly backward as if listening to the heavenly chorus of the angelic host surrounding her. All these angels bear scrolls, two or three of which have the sacred monograms of Jesus and Mary on them; one only has the words "Gloria in Excelsis" on his scroll. On the south side of the choir are thirty-two stalls in all, five of which face eastward, and in the lower row twenty-seven, three of which are returned. At the east end on this side is the archiepiscopal seat placed in a semi-circular recess, and over it a stone canopy. The old statues are gone from the niches at the side, but new ones of the four doctors of the Latin church, all very short and portly personages, have been put up in their place. The stone desk of the archbishop's seat is turned to the altar. On the north side are thirty-three stalls, and twenty-eight below them in the lower rank. The returned stalls are the same in number as on the south side. Behind each stall, above its wooden back and between the angels, is a panel painted alternately red and black, and covered with arabesques and small angels. These panels have the appearance of stamped leather, and are very rich in effect. Above each is a shield just below the canopy of the stall, painted originally, but now defaced.

All the wealth of carving has been lavished on the stone work, so the wooden portion of the stalls is quite plain and simple in design.

The old pavement of oak, inlaid with the brasses and monuments of the bishops buried here, was ruthlessly torn up in 1831, and a new floor, composed of black and white marble lozenges, laid down, the glaring effect of which is out of harmony with the sombre grey tones of the old stone screens now mellowed by time.

Figures of the emperors Constantine on the south, and Charles the Great on the north, crown the side entrances. In the centre of the open tracery above the doors is the shield of d'Amboise supported by stags, and in the spandrels the monograms of Jesus and Mary. Five steps lead up to the sanctuary, round which are grouped the apostles and St. John the Baptist, with Our Lady in the centre of the eastern bay. These statues are placed against the piers in positions similar to the prophets at the outer side. The apostles have their emblems, and hold scrolls inscribed with the twelve articles of the Creed. St. Paul has the opening verse of his Epistle to the Hebrews, and St. John Baptist "Ecce Agnus dei, etc." The article of the Creed appropriated to each apostle corresponds with the text held by the prophet who stands outside the same pier [*e.g.* St. Jude's article, "Carnis resurrectionem," is equivalent to the text in the hand of Daniel, "Educam vos de Sepulchris," while Jacob, who is on the outer side behind St. Paul, bears "Non auferetur sceptrum de Juda et Dux de femore ejus donec veniat qui mittendus est." St. John Baptist stands on the left hand of Our Lady, and St. Paul on her right, thus occupying the place of honour. "This precedence of St. Paul over St. Peter, in his quality as the youngest member, the Benjamin, as it were, of the apostolic college (having been added by Christ to the original twelve chosen by himself) is the final echo of a tradition which is found throughout the middle ages."[a]

Under the statue of Our Lady stood originally a small altar, which has now disappeared, but its site is marked in the pavement.

The magnificent high altar erected by Louis d'Amboise I. was destroyed at the Revolution. It stood at least the distance of one bay westward of its successor, an ugly erection of the early years of this century and out of all proportion with the presbytery. The only relic left of it is a wooden panel, which served as an occasional frontal to the altar-shelf. This is painted in oils, and contains an

[a] Mgr. de Montault, in *Revue de l'art Chrétien*, 1887, p. 356.

early sixteenth-century representation of the Last Supper, with figures of St. Geneviève of Paris and a bishop at the ends. The length of this predella proves that the old altar was about two feet shorter in length than the present one.

The splendid metal work of silver and bronze, with which the sanctuary was adorned by Louis d'Amboise in 1485, was taken to the mint and cannon foundry in 1792.

Three independent records, viz. the archives in the *Bibliothèque Nationale* (Fonds Doat. vol. 112), the Procès-verbal of the Visitation of the cathedral church and chapter in 1698 and 1699, by Charles le Goux de la Berchère, archbishop of Albi,[a] as well as the Procès-verbal drawn up by the Commissioners in 1790, contain minute descriptions of these beautiful works of art, and enable us to form some idea of the precious ornaments which furnished the choir and presbytery before the Revolution.

The bishop who thus so magnificently adorned his church, besides bequeathing to it his valuable library, died in 1502; and the vile taste of one of his successors led him to destroy (or conceal with stucco), in 1779, the monumental effigy, and deface the humble tombstone covering the grave of that great prelate.

This was, however, only a prelude to the work of alteration and mutilation which has been carried on during this century. The old choir is now no longer used for Divine service. Since 1882, an enclosed space has been raised at the west end of the nave, and a new high altar placed under the organ. Beneath it lies, behind a glass frontal, a copy, in coloured plaster, of Maderna's celebrated statue of St. Cecily. She here appears in a green robe and yellow turban, and is altogether a charming example of modern ecclesiastical French art.

[a] Published at Tours in 1877 by the Baron de Rivières from the original document.

To follow page 112.

APPENDIX.

The following is the arrangement of the paintings on the vault of the nave of the church:



St. Bartholomew — St. James Minor

St. Jude — St. Simon

Christ in Glory

Eagle — Angel

Jerome — Gregory

St. Matthias — St. Matthew

Lion — Ox

Adam — Augustine — Ambrose — Eve

Temperance — Prudence

Nahum — Simeon — Ezekiel — Prophet

Jonah — Prophet

Isaac — Abraham

Justice — Fortitude

St. Joseph — Coronation of Our Lady — St. John Baptist

Sacrifice of Isaac — Story of Susannah

Parable of the Ten Virgins

St. Joachim — St. Anne

Charity — Faith

Sibyl Phrygia — Hosea — Daniel — Sibyl Persica

Agnus Dei

Sibyl Libica — Haggai — Habakkuk — Anna

Humility — Hope

St. Valerian — St. Cecily

Isaiah — Micah

St. Paul — St. Peter

David — Zacharias

St. Tiburce — St. Agatha

St. Katherine — St. Mary Magdalene

David — Annunciation — St. Augustine

Tubal Cain (Music) — Theology

Coronation of St. Valerian and St. Cecily

St. Genesius — St. Paul

St. Margaret — St. Apollonia

St. Louis of Toulouse — St. Louis K.

Tobias — Methuselah

Arabesque — Arabesque

Elisha — Nephthali

St. Martial — St. Salvi

St. Barbara — St. Ursula

Joseph — Jacob

IHS

Arabesque — Arabesque

PAX

Moses — Jonah

form some idea of the precious ornaments which furnished the choir and presbytery before the Revolution.

The bishop who thus so magnificently adorned his church, besides bequeathing to it his valuable library, died in 1502; and the vile taste of one of his successors led him to destroy (or conceal with stucco), in 1779, the monumental effigy, and deface the humble tombstone covering the grave of that great prelate.

This was, however, only a prelude to the work of alteration and mutilation which has been carried on during this century. The old choir is now no longer used for Divine service. Since 1882, an enclosed space has been raised at the west end of the nave, and a new high altar placed under the organ. Beneath it lies, behind a glass frontal, a copy, in coloured plaster, of Maderna's celebrated statue of St. Cecily. She here appears in a green robe and yellow turban, and is altogether a charming example of modern ecclesiastical French art.

* Published at Tours in 1877 by the Baron de Rivières from the original document.


St. Bartholomew
St. James Minor
St. Jude
St. Simon
Christ
Eagle
in
Angel
Glory
Jerome
Gregory
St. Matthias
St. Matthew
Lion
Ox
Adam
Augustine
Ambrose
Eve
Temperance
Prudence
Nahum
Simeon
Ezekiel
Prophet
Jonah
Isaac
Abraham
Prophet
Justice
Fortitude
St. Joseph
Coronation
of
Our Lady
St. John Baptist
Sacrifice of Isaac
Story of Susannah
Parable
of the
St. Joachim
Ten Virgins
St. Anne
Charity
Faith
Sibyl Phrygia
Hosea
Daniel
Sibyl Persica
Agnus
Sibyl Libica
Haggai
Dei
Habakkuk
Anna
Humility
Hope
St. Valerian
St. Cecily
Isaiah
Micah
St. Paul
St. Peter
David
Zacharias
St. Tiburce
St. Agatha
St. Katherine
St. Mary Magdalene
David
Annunciation
St. Augustine
Tubal Cain (Music)
Theology
St. Genesius
Coronation of
St. Valerian and St. Cecily
St. Paul
St. Margaret
St. Apollonia
St. Louis of Toulouse
St. Louis K.
Tobias
Methuselah
Arabesque
Arabesque
Elisha
Nephthali
St. Martial
St. Salvi
St. Barbara
St. Ursula
Joseph
Jacob
IHS
Arabesque
Arabesque
PAX
Moses
Jonah
St. Veronica
St. Agnes
St. Roch
St. Sebastian
Transfiguration of
Our Lord
Heads of Saints
Heads of Saints
Christ
appearing to
St. Martin
St. Thomas
St. Christopher
St. Liberata
St. Anastasia
Jechoniah
Shealtiel
Arabesque
Arabesque
Zerubbabel
Abiud
St. Martha
St. Mary of Egypt
St. Urban
St. Silvester
Eliakim
Azor
Arabesque
Arabesque
Achim
Sadoc
Job
St. Anthony
St. Katherine of Siena
St. Clare
Eleazar
Eliud
Arabesque
Arabesque

V.—*The Vases of Magna Graecia.* *By* Talfourd Ely, *Esq., M.A., F.S.A.*

Read January 31, 1895.

When we reflect on the grandeur, wealth, and power of the numerous representatives of Hellenic culture that caused a considerable portion of Italy to be called a greater Greece,[a] we can hardly fail to be struck with the scanty knowledge we possess of their political and social history.

Here and there an allusion in Herodotus,[b] a few words from Diodorus or Polybius, a doubtful story in Athenaeus, only whet our appetites to learn more of the proud communities that threatened to eclipse their parent Greece.[c]

Were it not for the imperishable beauty of her coinage what should we know of Terina? The "golden harvest" dedicated at Delphi by the Metapontines is commemorated by the staters of their city; but the traveller who now alights at the station of Metaponto finds the harvest has usurped the place of the city. "Perierunt etiam ruinae!" In the second century of our era Pausanias wrote, "In my time, except a theatre and the circuit of a wall, nothing is left of Metapontion."[d] Wall and theatre have now followed the rest, and the scanty

[a] Polybius, ii. 39, *ἐν τοῖς κατὰ τὴν Ἰταλίαν τόποις, κατὰ τὴν Μεγάλην Ἑλλάδα τότε προσαγορευομένην*; Livy, xxxi. 7, Tarentini . . . oraque illa Italiae, quam Majorem Græciam vocant; Ovid, *Fasti*, iv. 64, Itala nam tellus Græcia Major erat. As to the origin of the epithet, see Athenaeus, xii. 523, e.

[b] *e. g.* in vi. 127, the mention of Smindyrides as pre-eminent among the gilded youth of Sybaris.

[c] According to Heraclides Ponticus (quoted by Athenaeus, xii. 522 a) the Sybarites set up an opposition to the Olympic games.

[d] Paus. vi. 19, 11. *Cf.* F. Lenormant, *La Grande-Grèce*, i. 133, "Métaponte est un désert et on y arrive par le désert." So Cicero speaks of *Magna Græcia* generally, "Quae nunc quidem deleta est;" *De Amicitia*, iv.

vestiges of two temples are all that remain to bear witness to the glories of a city which sheltered Pythagoras in his declining years, and where Cicero gazed on the sage's tomb.

It is much the same with other Hellenic offshoots. Constantinople and Smyrna, Marseilles and Naples still flourish indeed, thanks to an exceptionally favourable position; but the vast majority [a] of Greek colonies, through changes in the great routes of trade, are now "vox et praeterea nihil." Tarentum, as Professor Kirchhoff has remarked,[b] was the natural agent of Hellenic civilisation for the Calabrian peninsula. But modern Taranto, in spite of the railway and the Italian fleet, strikes the passing traveller as a city of the dead. The street is narrow, so that the lofty old houses may keep out the blazing sunshine; there is nothing to tell of progress, except advertisements of English manufactures; the priests chat quietly in the cathedral church, which is dim with incense; almost the only movement I noticed there was that of a funeral procession, and even this moved slower than in more bustling lands.

Yet ancient Tarentum must have been a busy place, with her trade, and wealth of olives, wine, and wool. Still richer, perhaps, was her harvest of the sea, the *murex*, yielding the famous purple dye, found in prodigious quantities in the *Mare Piccolo*, a landlocked harbour, upwards of sixteen miles in circuit, which made Tarentum the one safe refuge in the otherwise harbourless gulf. The shells of the *murex* lie in masses near the harbour and the ancient city.

A more interesting deposit is that of the terra cottta images, and the moulds for making them. These have been found in thousands; and Mr. Arthur Evans has given, in the Journal of the Hellenic Society,[c] a valuable account of his researches with regard to them.

For our present purposes, however, another phase of Tarentine industrial activity is more important, the making of painted vases; for to Tarentum are generally ascribed those Apulian vases which have as an ornament rows of fish and other marine objects, a decoration quite appropriate to a chief harbour of southern Italy.

This extremity of Italy is less known to us than other parts. It is "nobody's way nowhere." The stream of English, ever flowing eastward, turns off at

[a] There is no complete list of the Greek colonies, but, according to Pliny, Miletus alone founded over ninety: "Miletus . . . super nonaginta urbium per cuncta maria genetrix."—*Nat. Hist.* v. 31.

[b] *Studien zur Geschichte des griechischen Alphabets* (4th edition), 156.

[c] VII. 1.

Brindisi, and from there I have travelled westward round the coast to Metapontum, Paestum, and Naples without meeting a single Englishman.

How many of this learned audience are aware that Greek is even now the language of some isolated communities in the toe and in the heel of Italy?[a] Such is the case near Reggio and Otranto;[b] and it would be pleasant to imagine that we have here an unbroken chain of speech reaching back to the discourses of Pythagoras. But the philologists will have none of this, nothing is sacred to a philologist, and they tell us that this Greek "did not take its origin in Southern Italy, ... from the ancient Greek of *Magna Graecia*, but simply from the modern Greek of Greece";[c] or rather (as Mr. Tozer points out[d]) from the medieval Greek.

In like manner the vases of Southern Italy are little known or cared for. Students of ceramics turn their attention to early forms, as the Mycenaean, or the Geometric, or, at all events, to the pottery of Greece proper, and especially to Attic ware.

A weighty authority, M. Saloman Reinach, has recently remarked, "il est rare aujourd'hui de trouver dans un recueil savant la gravure d'un de ces vases italo-grecs qui faisaient la joie d'un Hamilton ou d'un Tischbein, et qui ont encore bien des choses à nous apprendre."[e]

This neglect of works of the decadence may, as M. Reinach remarks, have gone too far, and it may be reasonable to expect a reaction, though, as yet, it must be confessed, there are no signs of it. Till the great discovery of the Etruscan graves at Vulci,[f] a discovery that marks an epoch in the history of archaeological science, the vases of South Italy formed the staple of publications on ancient ceramics.

Such publications as, *e.g.* Passeri's *Picturae Etruscorum*, or the *Serie di Trecento Tavole*, published at Rome in 1787, have, however, little scientific value; and,

[a] Mr. H. F. Tozer, in the *Journal of Hellenic Studies* for 1889 (x. 11), states that there are still "twenty thousand persons in the South of Italy who speak Greek as their native tongue."

[b] See "Linguistic Islands," by Prince L. L. Bonaparte, in the *Transactions of the Philological Society*, 1888-90, p. 339.

[c] *Ibid.* 363, where reference is made to the treatises of Professors Comparetti, Morosi, and Pellegrini.

[d] *Journal of Hellenic Studies*, x. 37. Mr. Tozer concludes (p. 42) that "the Greek-speaking population of South Italy . . . are the descendants of the Byzantine Greeks, who migrated thither not later than the eleventh century."

[e] *Peintures de vases antiques*, Introduction, pp. ix. x.

[f] In 1828. See Gerhard's "Rapporto Volcente," in *Annali d. Inst.* iii. 5.

with the exception of Gerhard's *Apulische Vasenbilder* (published as far back as 1845), Furtwängler's text to Genick's *Griechische Keramik*, and Lau's excellent work with its valuable text by Brunn and Krell, we have little literary help in our endeavours to form a judgment as to the ceramic art of the Italian Greeks.

As M. Reinach has observed,[a] the study of painted vases has passed through three stages, the artistic, the exegetical, and the historical, and they are now treated as monuments of the history of art. We no longer look to them for moral guidance, or find on them, as Millin did,[b] "des allégories qui rappelaient, à ceux à qui on donnait ces vases, les exemples qu'ils devaient suivre et les actions qu'ils devaient imiter!"

How far such explanations may be carried may be seen in Kirk's *Outlines*,[c] where Plate 36 is described as representing Volumnia, Hersilia, and Valeria, though one of the three figures is obviously male!

Without going to these depths of absurdity we may find much in these vases beyond and apart from mere beauty of form. For instance, the representations upon them must be of interest to all who care to gain a notion of the habits and thoughts of communities whose history has almost perished.

The bulk of such representations may be grouped under two heads, which are of special value: firstly, as placing before us the views once prevalent as to a future life, and, secondly, as giving us an idea of the drama of the day. These two groups may not really be so completely disconnected as they at first sight appear.

The former comprises scenes obviously appropriate to a class of objects such as painted vases intended for dedication in temple or tomb.

As to the second, we must not forget that the drama was under the direct patronage of Dionysos. It originated in his worship, and the theatre was actually a temple of the god, a fact that seems no doubt strange to the average Englishman, in spite of his miracle-plays of the middle ages, and his guild of Church and Stage of the present day. But Dionysos was an important factor in the problem of a future state, and never more so than in the Hellenistic age to which this ware belongs. Scenes had indeed been borrowed from the comic stage at an

[a] In his introduction to *Peintures de vases antiques*, p. vii.

[b] *Ibid.* 3.

[c] *Outlines from the Figures and Compositions upon the Greek, Roman, and Etruscan Vases of the late Sir William Hamilton.*

earlier date, as, for instance, the actors with bird-masks on a black-figured amphora at Berlin,[a] and an oenochoe in the British Museum.

Closely akin to these comic scenes are those Boetian *scyphi*[b] recently discovered in the Kabeirion near Thebes, which were evidently intended as deliberate caricatures of the popular mythology. These comparatively early vases, however, caricature only Dionysos with his noisy and not very reputable crew, or a mortal Odysseus, or a third-rate immortal such as Kirke.

Aristophanes, indeed, might introduce in the theatre his deities in every sort of unbecoming predicament; but I hardly think that in his day or earlier the Greeks would have tolerated the presentment of such profanities in painting or sculpture. Yet on the Italian vases we find not only the humbler classes of supernatural beings exhibiting their weaknesses in a most undignified manner, but even the most blue-blooded Olympians, such as Zeus and his consort Hera.

Thus, in the British Museum[c] we have on a crater (F. 269) the contest of Ares and Hephaistos carried on in bombastic style under the divine nose of their unlucky mother; while another crater (F. 150)[d] bears a most realistic representation of Zeus clandestinely climbing up to Alkmene's window, and Hermes on the *qui vive* below. These vase-pictures are a reflection of the φλύακες, a speciality of *Magna Graecia*, and above all of Tarentum. Such farces have little to do with Aristophanes and the Athenian stage. Their origin is ascribed to Rhinthon; and they belonged to the third century, when the festivals of Dionysos were at their height in southern Italy.[e] Nor are there wanting more serious dramatic situations drawn from the tragic stage, as that of Iphigenia,[f] or of Alkmene, on the famous crater painted by Python, now in the British Museum.[g]

[a] No. 1,830 in Furtwängler's *Beschreibung*. For illustrations see Mr. Cecil Smith in vol. ii. 309, and Mr. A. S. Murray in vol. vii. 54, of the *Journal of Hellenic Studies*.

[b] Now in the British Museum, in wall-case 7 of the Second Vase-room. For further details see Mr. Walters in *Journal of Hellenic Studies*, xiii. 77-78, and M. Reinach in the *Gaz. des Beaux-Arts* for March, 1894. For a later Theban cup at Oxford, with Boreas and Odysseus, see Prof. Gardner, *Museum Oxoniense*, p. 18 and pl. xxvi.

[c] Fourth Vase-room, wall-case 69.

[d] *Ibid.* wall-case 72.

[e] See Heydemann, *Die Phlyakendarstellungen auf bemalten Vasen*, Jahrbuch d.Inst. i. 260-313. *Cf.* Jahn's *Einleitung*.

[f] See *Arch. Ztg.* for 1849, Taf. 12. Euripides was the favourite source, and he is said himself to have been in his youth a painter. See Vogel, *Scenen euripideischen Tragödien in griechischen Vasengemälden*, pp. 6 and 7.

[g] Fourth Vase-room, wall-case 18 No. F. 149. See Mr. A. S. Murray, in *Journal of Hellenic Studies*, xi. 225-230, plates vi. and vii.

Returning to our first group, the group directly referring to death and future life, we must place in the foremost rank those vases, unfortunately few in number, which set before us a view of the abode and condition of the dead, as the famous Orpheus vase from Altamura,[a] or the still more splendid vase found with two others in a grave at Canosa, and now in Munich.[b]

Less ambitious than these compositions are the pictures that represent simply the sepulchral *stelae*, with figures, often females, bringing libations to the tomb. A more striking delineation of this cult of the dead is seen in the *heroon*, the favourite subject of the Italiote artist. How popular a type this was may be understood from the fact that in Heydemann's catalogue of the Naples collection alone there are no fewer than sixty-five entries under the head "Grabmal (in Tempelform)."[c]

In this type appears the Italian taste for architectural display which manifests itself also, though less frequently, in the representation of temples and palaces, and may be compared with the Pompeian fashion of wall-decoration in the second or architectural style.'[d]

The Hellenistic age was, no doubt, fertile in novelties of building as well as of other arts; but this fondness for pillared halls may most readily be explained (as von Rohden has observed[e]) by reference to a scenic prototype.

Such love for display of architectural forms, often fantastic enough, is a prominent feature in the chief class of south Italian ware, the Apulian.

The other two classes recognised, the Lucanian and the Campanian, are of less importance. The Lucanian includes one form of vase peculiar to itself, a clumsy imitation of bronze with discs on the handles.[f] Though this form is at this late period peculiar to the Lucanian class, it is really a reversion to an older type, such as may be seen among the archaic vases in the First Vase-room of the British Museum,[g]

[a] *Monumenti inediti Inst. di Corr. Arch.*, viii. 9.

[b] No. 849 of Otto Jahn's *Beschreibung*. *Cf.* Baumeister, *Denkmäler*, p. 1928, and pl. lxxxvii. It is given in colour by Lau, *Die griechischen Vasen*, pl. xxxv.

[c] *Die Vasensammlungen des Museo Nazionale zu Neapel, beschrieben von H. Heydemann.*

[d] See Mau, *Geschichte der decorativen Wandmalerei in Pompeji*, p. 124 foll. Pl. iii.-ix.

[e] In Baumeister's *Denkmäler*, p. 2006.

[f] See Lau, *Die griechischen Vasen*, pl. xlii. 1. c; Genick, *Griechische Keramik*, pls. viii.-x. On one such vase in the British Museum (F 175 in the Fourth Vase-room) there is a picture of a vase of the same make.

[g] No. 315 in wall-case 55. *Cf.* Furtwängler's "Apulische-geometrische Gattung," No. 276, and Form 14 in his *Beschreibung*. Prof. Gardner seems not to think them so early. See *Museum Oxoniense*, p. 3; and No. 83, fig. 8, on p. 4.

just as in the Apulian crater we get back, as Mr. Cecil Smith has remarked, to the old oriental style of the frieze.[a]

The Lucanian style of painting is distinguished by large heads with staring eyes, and the arrangement of hair in black masses, by ungraceful pose, by awkward drapery, by sparse use of ornament and of bright colour; though in this and other respects one artist stands out above his severer brethren, Assteas, one of the three Italiote vase painters who thought their work worthy of their signatures.[b]

The Berlin crater signed by Assteas came from Nola, and Furtwängler places it in the late Campanian class. On the other hand low comedy, such as is represented on that vase, was specially connected with Tarentum, and Assteas signs also in letters connected with that city. But Heydemann[c] describes a vase of Assteas, now in the Naples Museum,[d] as having been found at Paestum, *i. e.*, in Lucania, though certainly not far from the Campanian boundary. Another vase painted by Assteas with the frenzy of Herakles was found at Paestum. There is often a difficulty in deciding the exact domicile of a vase-painter, and we may sometimes confess "*Lucanus an Apulus anceps.*"

Of Campanian ware the most interesting feature is the fondness for the simplicity and graceful lines of the so-called Nolan amphora.[e] Conspicuous too are the black vases from Capua, like elegant ladies richly dight with tastefully wrought necklaces of gold.[f] In these, as in so many other classes of pottery, we may trace the influence of metal technique.

By far the most important of the three schools of Italiote ceramics was the Apulian; and it is interesting to find that even now Apulia in some fashion maintains her reputation in this department. "At the present day," writes Mr. Arthur Evans, "the East Adriatic ports obtain their pottery almost exclusively from the Apulian coast."[g]

The leading characteristics of Apulian ware are great size, some Apulian

[a] *e.g.* on F. 278, Pedestal 12, in the Fourth Vase-room, the Death of Priam, and the meeting of Menelaos and Helen at the taking of Troy.

[b] See Von Rohden, in Baumeister's *Denkmäler*, p. 2007. The others who signed were Python and Lasimos (Jahn, *Einleitung*, ccxxxi.).

[c] *Humoristische Vasenbilder.*

[d] No. 2473 of Heydemann's Catalogue. It represents Herakles and the Hesperides.

[e] See pls. i. and iii. of Genick's *Griechische Keramik.*

[f] There are some fine examples of this class (dating from the last half of the fourth century) in the Third Vase-room of the British Museum, cases 17 to 24.

[g] *Archaeologia*, xlviii. 45.

vases are considerably over three feet high;[a] lavish abundance of ornament, scattered over every part; free use of colour, especially yellow and white; adoption of plastic accessories, such as medallions on the handles; imitation of metalwork, both cast and wrought. Occasionally a darker yellow is used for the shading of a shield.[b] So far were these show-vases from being intended for actual use that some of them absolutely have no bottom. They are carelessly made, the black glaze no longer possesses the beautiful Attic brilliancy. As a rule it was not thought advisable to increase the size of the persons represented in proportion to the increased size of the vase,[c] so successive rows of figures were introduced, one above another; while a public building or a sepulchral monument often extended through more than one of such rows, so as to form a centre round which the figures might be grouped. This architectural focus, generally painted white, and often touched up with yellow, produced a pictorial effect, which was heightened by the re-introduction of the dark red employed by archaic artists, but for the most part abandoned by those of the finest style.[d]

Beyond these polychrome decorations, others of actually plastic nature came into use. While the restrained and statuesque character of the older vase pictures was degenerating into confused grouping of many-coloured forms, clay mouldings were added in the shape of medallions representing faces; and the heads and necks of swans, moulded in clay in imitation of bronze casting, were placed on the shoulder beside the handles. A good example of this treatment will be found in the large crater on a pedestal (No. 9) in the Fourth Vase-room at the British Museum. An imitation of this vase, by Wedgwood, is to be seen in the Museum of Practical Geology in Jermyn Street, but the imitation is not a very happy one.

The architectural tendency of the representations on these Apulian vases is enhanced by the cornice-like lip; while their excessive size makes the foot seem too weak for its burden; and in fact the body of the vase does not sink into and

[a] Some of the vases in the Koller collection at Berlin are 3 feet 5 inches high, or, with the handles, 4 feet; *e. g.* No. 3,258 of Furtwängler's *Beschreibung*. See O. Müller, *Anc. Art*, 301, 1.

[b] *e. g.* in the British Museum, Fourth Vase-room, on an Apulian amphora, F. 335, in wall-case 15; also on a kelebe, F. 297, in wall-case 48.

[c] Yet compare the figures of athletes, about a foot high, on the reverse of the Lucanian amphora, F. 184, on pedestal 7 in the Fourth Vase-room.

[d] See Section 11 of Brunn and Krell's introduction to Lau's *Die griechischen Vasen*, and Taf. xxxv.

closely unite with the foot, as it always does in Greek pottery of the best period.[a] There is a striking difference between the rich decoration of the upper portion and the baldness and poverty of the lower.

As to the subjects represented we may note the frequent substitution of a bust for the whole figure; while in the bands of ornament a female face often forms a centre.

The *heroon* I have already mentioned as a leading feature in Apulian vase-painting. Sometimes the building stands empty:[b] sometimes it is tenanted only by a plant,[c] or a vase;[d] on a crater in the Britith Museum[e] it forms a canopy for a statue of Leda with the swan. As a rule, however, it is occupied by at least one person,[f] often female, but more frequently male, not seldom accompanied by the horse,[g] the characteristic attendant of the heroic dead on sepulchral *stelae*.

The most dramatic, perhaps, of these representations is that on an amphora, published by Passeri,[h] where a warrior holding a spear rushes into a shrine in which another warrior is lying dead at the foot of an altar crowned by a vase. It is observable that in most of these cases the principal personage, presumably the dead man himself, is represented as young, as is the case for the most part with the mummy portraits in the National Gallery[i] and elsewhere. A question naturally arises, Is this simply conventional? Does the defunct appear in heroic and immortal youth? Not always, assuredly; for we find in the British Museum[k] a bearded man in an *heroon*, and Genick, in his *Griechische Keramik*, Pl. VI, has, on a fine red-figured Apulian amphora, a bald-headed player on the lyre. As a rule, however, we may undoubtedly trace in these works of art the operation of that tendency of the Hellenic mind to give youthful features to all, and to strip Dionysos and Hermes of the archaic beard once worn even by Apollo himself.[l]

[a] Compare the section of an amphora in Pl. xxxv. of Lau's *Die griechischen Vasen* with that in Pl. viii.

[b] As on two amphorae in Passeri, *Picturae Etruscorum*, plates 264 and 265.

[c] *Ibid.* plates 143 and 182.

[d] *Ibid.* plate 272.

[e] Fourth Vase-room, wall-case 22, No. F. 286.

[f] On an amphora in Passeri, *op. cit.* pl. 182, there are *three* figures, forming a dramatic tableau.

[g] Passeri, *op. cit.* plates 190, 267, 270, 271.

[h] Plate 260.

[i] Of the eleven portraits in the National Gallery none have grey hair, though two women and one man have an elderly appearance.

[k] Fourth Vase-room, wall-case 16, No. F. 281.

[l] Lucian, *De Syria Dea*, 35, speaks of a bearded Apollo as existing at Hierapolis, but as a thing foreign to Greek ideas; indeed, representations of the bearded Apollo are very rare. Three I have

These artists of *Magna Graecia* go a step further too in introducing in human form representations of purely abstract ideas, as *Lyssa* and *Mania*, Rage and Madness.[a] There were changes also in politics and philosophy, novelties introduced with the doctrines of Pythagoras, as developed long after his death. But perhaps we ourselves are hardly in a position to cast a stone at the Italiotes on this score.

It is now high time to turn to the vase actually before us, for the loan of which I have to thank my friend Mr. Edwin Lawrence.

It is an amphora of Lucanian make, dating probably from the third century B.C.

On a question of the date of vases from *Magna Graecia* one can hardly pass by without notice an opinion of Professor Furtwängler, one of the greatest authorities on Greek ceramics, as indeed on many other branches of archaeology. In that remarkable storehouse of brilliant paradoxes, his *Meisterwerke der griechischen Plastik*, Professor Furtwängler tells us that with the foundation of Thurii, in 443 B.C., the art of the Athenian potter was transplanted into the neighbourhood of that colony.[b] That art, he suggests, was continued at Heraclea, and thence passed on to Tarentum. He traces the influence of the art of Phidias on the vase-painters and their work, and considers that scenes from tragedy are to be found on vases as early as the end of the fifth century.

Such vases, however, as the one now before us Professor Furtwängler would scarcely claim for a much earlier date than the first half of the third century; indeed he expressly speaks of some Lucanian vases as comparatively late. Thus he says (p. 150) that the grander vases represent "die Vorstufe zu den späteren lukanischen vasen." Again (p. 152) "Die Fabriken von Herakleia sanken; ihre Produkte (die später lukanischen Vasen) werden geringer und nehmen einen mehr und mehr localen Charakter an."

Mr. Lawrence's vase has been broken and repaired, perhaps slightly touched up. Though the handles are shorter it has a general resemblance to Furtwängler's

observed on black figured amphoræ in the British Museum (B. 147, 212, and 260, in the Second Vase-room). *Cf.* the François vase and the Melian vase and a fragment from the Acropolis at Athens. See also Gerhard, *Trinkschalen*, Taf. 4, 5 (a black-figured kylix from Tarquinii, *Annali d. Inst.* iii. 146, note 313); and *Auserlesene Vasen*, i. 1. *Cf.* p. 117, note 64; and Stark, *Archäologische Zeitung*, xii. 321 (a marble statue at Lyons; but the genuineness of the inscription is doubtful. See Overbeck, *Zeus*, p. 572, note 91, and *Apollon*, p. 367).

[a] As in the picture of the mad Herakles by Assteas, *Mon. Inst.* viii. 10.

[b] *Meisterwerke*, p. 151.

No. 48,[a] being an "amphora a Colonette," or some would say a kelebe[b] or crater.

Its dimensions are the following: height, 22½ inches; breadth across handles, 20⅕ inches; breadth without handles, 15⅝ inches; breadth of opening, 12½ inches; greatest girth, 45⅜ inches.

The ornamentation is as follows:

On the top of the lip are ivy leaves in black, on pale red ground.

On the top and sides of the handles palmettes.

On the obverse outside the lip there is a laurel wreath, without berries, in pale red.

On the neck, which rises sharply from the shoulder, is (on each side) a pale red panel with a black spray of ivy with berries.

On the shoulder the straight-lined decoration called by the Germans "stab-ornament."

The main field is formed by a black panel, enclosed by an orange-red frame containing a double row of black spots on each side and a maeander pattern in black below.

Within this frame on the reverse are three draped figures with walking-sticks.

On this side there is no white or other colour except that of the clay and the black glaze, a lighter shade of which is used in the ornament, as in the spray of ivy.

On the obverse there are four figures forming what the Germans call a "kredenzscene."

In the centre a youth seated (to the left) on a heap of stuffs, and wearing a short chiton, ornamented with the swastika, and having a yellow girdle, stretches out his right hand and supports his left on a spear. He wears a white laurel-wreath Behind him a youth (also to the left and wearing a laurel wreath) stands with his right foot on a rock, in what may be called the Poseidon-pose, and rests his left hand on his spear. His short chiton, ornamented with rosettes, is confined by a yellow girdle. He has boots reaching halfway up the leg. Facing these youths are two maidens standing (to the right) in long chitons.

The first wears a necklace of beads, and two bracelets. There is a double row of black spots, forming a border for the front of her chiton from top to bottom. In her right hand she holds an *oenochoe*, in her left a large cup with yellowish white ribs, apparently offering it to the seated youth.

[a] In Plate iv. of his *Beschreibung*.

[b] Athenaeus (475) speaks of κελέβη as an ἔκπωμα or drinking-cup; but he seems to have misunderstood his own quotation from Anakreon.

Behind her (also to the right) stands another woman, carrying on her head a large vessel containing fruit or cakes, painted yellow. She seems to have four bracelets and seven brooches, of yellowish white. Above in the centre is hanging drapery; to the right a very small window.

The scene is of a well-known type. There is probably no reference to any myth; it is only a maiden offering a parting cup, seen so often on vases, sometimes in other works of art, as in the wall-painting from Paestum now in the Naples museum,[a] where it is in one instance a "stirrup-cup," offered to mounted warriors. In the marble relief at Leyden[b] it is a warrior on foot who holds the parting cup. However this may be, it is no everyday parting; he who drinks this draught is setting out for

> The undiscovered Countrey from whose Borne
> No Traveller returnes.

It is the delicate symbolism of the Greek, contrasting so strikingly with the ugly realism of Roman art, and with our favourite method of expressing Christian hope by the agency of skull and cross-bones.

A word as to the source from which this vase was obtained. Mr. Lawrence bought it at the sale of the effects of a lady who had been attached to the Court of Napoleon III. Now a relative of this monarch, Lucien Bonaparte, Prince of Canino, was the owner of that vast storehouse of vases, the Necropolis of Vulci. If then our vase had been made in Greece proper, we might easily have guessed where it was found; it is, however, undoubtedly of South Italian origin, and belongs to a class hardly likely to be represented in the Etruscan cemetery of Vulci. It may possibly have come into the possession of the Bonapartes in exchange for some of the fruits of their excavations there.

We know this vase is not a product of the Athenian Kerameikos, for the clay is inferior and the glaze dull and smeared.

That it is Lucanian I judge from its form and ornament, and also from the style of its pictorial representations, the treatment of the hair, and the drapery with its heavy folds. It does not indeed charm us with the grace of an Attic lekythos, or bring us face to face with the master spirit, like a cup that bears the signature of Euphronios. Yet it is something to have before us even the last flickering of Hellenic genius, doomed so soon to be stamped out by the conquering tread of Rome.

[a] *Mon. Inst.* viii. Taf. xxi. See Helbig, *Ann.*, 1865, pp. 262-295.

[b] See Friederichs-Wolters, *Bausteine*, p. 398, No. 1,197.

VI.—*On the more important Breeds of Cattle which have been recognised in the British Isles in successive periods, and their relation to other Archaeological and Historical Discoveries, by* T. McKenny Hughes, *Esq., M.A., F.R.S., F.S.A.*

Read June 14th, 1894, and January 17th, 1895.

I.—*Introduction.*

The origin of the commoner breeds of cattle is a question of the greatest interest to the antiquary and historian as well as to the agriculturist and naturalist. It is an inquiry into the history of an animal, which, when wild, was always hunted by man, and, when tame, has accompanied him in all his wanderings; which was domesticated in the far-off ages when it is doubtful whether we can rightly say that man was civilized; which was his standard for barter; his chattel, and the original of all pecuniary transactions[a]; an animal whose remains lie buried with him or accidentally covered up wherever man has been.

The migrations of the ancient peoples of Europe, and the traces of their settlements, have been treated very suggestively and more or less convincingly by various authors, especially by Professor Müller[b] of Vienna, and Dr. Hugo Werner.[c]

Surely any one who would follow the vicissitudes of the races of man must take note of the breeds of cattle that lived and died with him.

[a] *See* Ridgeway, *Metallic Currency*, p. 4.

[b] *Mittheilungen der Anthropologischen Gesellschaft im Wien*, xii. Bd. S. 59.

[c] *Ein Beitrag zur Geschichte des Europäischen Hausrindes*, Berlin, 1892.

It is obviously most important for the agriculturist and naturalist also to trace the origin of the varieties on the development and perpetuation of which so much time and money have been and are being spent, and which yet keep perpetually before him the existence of laws which seem to thwart his efforts: the curious prepotency of transmission in the more ancient breeds; the difficulty of fixing some characters which it is desired to maintain; and the strange and unexplained phenomena of certain generally unstable parts or qualities. If reversion of type is one of the commonest facts in breeding, it is surely worth while to inquire what the types are with which we are first acquainted, to which, if to any, our modern forms must have a tendency to revert; and it is to archaeology we must appeal for evidence on this point.

II.—*The Bison.*

It will be sufficient for our purpose to begin with the Bison, the first of the ox tribe found associated in this country with the remains of man. This breed is akin to the Bison, or so-called buffalo, of North America, where it may still be seen, and where, within the memory of man, it roamed in herds that took more than an hour to pass at a gallop, as Professor O. C. Marsh told me he had himself seen. But it has nothing to do with that useful beast of burden, the buffalo (*Bubalus*) of southern Italy. It is mentioned in the Niebelungen Lied and is represented now in Europe by the Lithuanian Bison. If not still living in the Caucasus it was there till quite recently, as proved by Mr. St. George Littledale, who shot the two fine specimens which are now in the British Museum. They must have been very wild and wary for such large animals to have entirely

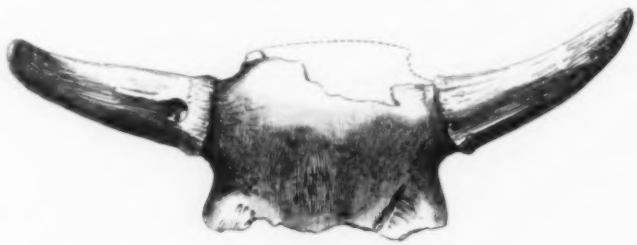


Fig. 1. *Bison priscus*. Barrington gravel. From a specimen in the Woodwardian Museum.

escaped the observation of the Russian explorers, although the not uncommon

occurrence of their horns, adapted and mounted for drinking out of, suggested that they could not long have been extinct.

The greatest difference between Bison and Bos is found at the junction of the front and hinder parts of the heads. In the full-grown Bos the upper edge of the frontal bone meets at a sharp angle the plane of the hinder part of the head, which slopes downwards and slightly forwards, that is to say, the planes of both forehead and hindhead break off abruptly at their junction with each other. But in the Bison the plane of the forehead passes over into that of the hindhead by a gentle curve, or, to speak more exactly, the frontal and occipital regions are connected by a narrow parietal ridge of which we find no corresponding trace in the head of the full grown Bos. This great divergence from the type of the parietal region common to all higher mammals does not become evident till the animal has attained its full growth. The skull of the embryo and of the calf of Bos resembles (as regards the connection of the frontal, parietal, inter-parietal, and supra-occipital bones) that of the full-grown Bison. By this we are brought to the conclusion that we may regard the shape of the Bison's skull as an example of the Bos type arrested at an earlier stage of developement.

Professor Wilckens of Vienna, in his paper on the skulls of oxen found in a prehistoric village in the Laybach Fen, accepts Rütimeyer's three species, *Bos primigenius*, *Bos taurus frontosus*, and *Bos taurus brachyceros*, but is unable to identify *Bos primigenius* among the remains from Laybach. He finds, however, a fourth form not hitherto recognised as distinct, for which he proposes the name *Bos taurus brachycephalus*. This type he believes to be represented in its purest form by the existing breed of Alpine cattle in the eastern Tyrol, especially in the Duxerthal and the Zillerthal. He has not recognised it in the Swiss prehistoric villages, but thinks that the cattle of the Enngerthal in the Canton Vaud belong to a closely allied breed. It has been, perhaps, partly confounded with *Bos frontosus*. These views he fortified by exact measurements of the skulls of some typical specimens and illustrated by plates. The distinguishing peculiarities of this breed are, in the forepart of the head, the breadth of the frontal bone above the eye sockets, and in the length of the horn-cores; and, in the hinder part, the sudden narrowing below the horn-cores (at the junction of the temporal and parietal bones), and the great width of the occiput between the aural protuberances.[a] The breadth across the palate is greater than the

[a] *Mittheilungen der Anthropologischen Gesellschaft in Wien*, Vienna, Karl Gerolds Sohn, 1878. *Naturforscher Verein*, Gratz, 1876.

length of the row of molar and premolar teeth in the brachycephalus type, whereas in every other race the proportion is reversed. In this group also the grinders are more square in section, and the proportion of the toothless back part of the lower jaw to the middle part, which contains the grinders, and to the vacant part between the grinders and the incisors, is much larger in the brachycephalus type than in any other. The maxillary protuberance (*tuber maxillare*) in the brachycephalus group is placed beyond the first molar, not, as in all other breeds, beyond the last premolar.

According to Wilckens the proportions of the skull put the descent of the brachycephalus ox from the Urus out of the question, while several points favour the theory of its genetic connection with the Bison.

Dr. Hugo Werner[a] does not accept the views of Wilckens as to the origin of the brachycephalus breed, and makes no mention of the Bison among the progenitors of the modern European cattle.

Dr. Weissenborn describing the Zubr or European Bison, says, "None of them have been completely tamed." "Their great antipathy to the *Bos taurus*, which they either avoid or kill, would render their domestication, if it were practicable, but little desirable. The experiments made with a view of obtaining a mixed breed from the Zubr and *Bos taurus* have all failed, and are now strictly prohibited."[b]

We have no complete skeleton made up of undoubtedly associated bones of the Bison from our gravel terraces, and therefore it is exceedingly difficult to refer detached bones with any certainty to Bison or Bos. As far as the evidence goes, the bones of the Bison seem to be generally finer than those of a Bos of the same size. Nor is there at present sufficient material to enable us to discriminate between the sexes in either forms. All the heads and horn-cores of Bison from the Barrington Gravels, the richest locality yet known, appear to be of one sex. They are all short, stumpy, and curved.

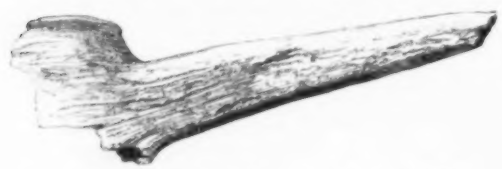


Fig. 2. *Bison priscus?* Dredged up off Yarmouth. From a specimen in the Woodwardian Museum.

A portion of a skull, Fig. 2, with one horn-core attached, which was recently dredged up in the North Sea off Yarmouth, has a core about twice the length of any Barrington specimen; it is also much thinner and straighter.

The specimen in the Worcester

[a] *Op. Cit.* p. 1. 14. See below p. 8.

[b] *A Monograph of the genus Bos*, by Geo. Vasey, London, 1857.

Museum, from the valley of the Avon, approaches more nearly our North Sea specimen. Is this a varietal or merely a sexual difference? Both, however, have the same protuberant occipital ridge, and neither shows any resemblance to our domestic cattle nor to any breed of Bos of which the remains have been found in this country.

It is almost impossible that in later times, after Bison and Bos had been long parted and differentiated, there could have been any cross between them resulting in the brachycephalus type. Such a circumstance would be contrary to all we know about the characteristics of the two groups. If it resembled the Lithuanian Bison in its habits it may be inferred not to have interbred or even associated with any species at all akin to our cattle. That Bison and Bos had a common ancestral form is *a priori* likely enough, and seems to be proved by the embryological investigations of Wilckens. On the continent a Bison is found in the older gravels, and the still existing species is of course found in recent deposits. The specimen labelled *Bos primigenius*, which hangs on the wall in the Geological Museum in Zurich (1894), undoubtedly belongs to Bison. But in Britain the bones of Bison are found only in the older gravel-terraces of the rivers which ran at a higher level than those of to-day. They have not been found in the fens, nor in any modern alluvial deposit. Therefore we may feel quite sure this species can have nothing to do with any of our modern breeds.

III.—*The Urus.*

With *Bison priscus* there are occasionally found the remains of another large animal of the ox kind. Its horn-cores are exactly like those of *Bos primigenius*, *Boj*, but no complete skeleton has ever been found in the older deposits in which Bison occurs, and we cannot therefore feel quite sure about it. The Urus, or *Bos primigenius*, became more abundant after the Bison had passed away, and is characteristic of the time when man used polished stone implements, that is, of the Neolithic or Newer Stone Age. It probably did not become extinct until the Bronze age.

A specimen (Figs. 3 and 4) was found in Burwell Fen, near Cambridge, with a polished stone implement (Fig. 5) sticking in its skull.[a] This interesting relic is now in the Woodwardian Museum. The lower part of the skull, which was

[a] Carter, *Geological Magazine*, 1874, p. 492.

detached when one of the photographs was taken, from which our figure is a reproduction, has been restored to its place. Many of the vertebræ and of the large



Front view. Side view.

Figs. 3 and 4. Urus (*Bos primigenius*) found in the peat of Burwell Fen, near Cambridge, with a Neolithic flint implement sticking in its skull. From the specimen in the Woodwardian Museum.

limb bones of the right side have also been preserved. The implement was broken off, perhaps by the force of the blow, perhaps in the attempt to extract it.



Fig. 5. The Neolithic implement found sticking in its skull.

I have already pointed out the characters by which the Urus can be distinguished from the Bison, which had a very broad forehead and a great rectangular protuberance between its straight outward-pointing horns; whereas the Urus had a narrow, flat or concave forehead, with a straight or slightly depressed occipital ridge, and its horns were very long and curved, first forward and downwards, and only upturned at the end. The Urus was a large gaunt beast with a long narrow face. A specimen has been found in which the bones of the face were more than a yard in length,[a] and which measured 42 inches from point to point across the horn-cores. His forehead made an acute angle with the occipital

[a] Owen, *British Fossil Mammals*, 498; Flemming, *History of British Animals*, 1828; *Proceedings of the Society of Antiquaries of Scotland*, ix. 645.

region, whereas in the Bison these surfaces were inclined to one another at an obtuse angle.

In this paper I rely chiefly upon the form of the head, as it is rarely that associated remains have been procured, and therefore the differences in the other bones have not yet been sufficiently well established to make the evidence founded upon them of practical use. Moreover, as Werner[a] observes, the skull may fairly claim the first place in considerations of this sort, since modifications of typical form come about much more slowly in it than in other parts of the body.

Cæsar,[b] in his description of the Hercynian forest, says "Tertium est genus eorum qui Uri apellantur . . ." "Hi magnitudine paulo infra elephantos . . ." "specie, colore et figura tauri."

Some have supposed that the animal referred to by Cæsar was the Lithuanian Bison, but the rest of his description shows that he has mixed up the accounts he got of the Urus and of the Bison. The Bison cannot be said to have the general appearance or colour or form of an Italian bull, and it is certain that no species of Bos can have been so untameable as Cæsar describes the Urus to have been, or can have had such antipathy to other breeds of Bos. The remains of this species are not common anywhere in the British Isles. A few horn-cores have been found in the Barrington gravel,[c] and in the museum at Lausanne there is a specimen of *Bos primigenius*, with stout horns exactly like those from Barrington. It was found in the "diluvium" of Lyons, associated with an elephant named *Elephas intermedius* by Jourdain. The Urus is recorded from Clacton[d] in Essex, and in the west it has been found near Bath, Tiverton, and Newton St. Loe, and in the bed of the Avon at Melksham.[e] In the north it has been procured from the bed of the Ribble,[f] and at Preston in Lancashire; and Harting records that the skull of this animal was found in a moss in Scotland with bronze celts,[g] and, according to Dr. Smith,[h] in a marl-pit near Selkirk, also with bronze weapons.

It has been stated that its remains occurred in a tumulus, probably of the Bronze age. Dr. Smith further mentions the finding "remains, apparently

[a] *Werner, op. cit.* 5.

[b] *Cæsar de Bello Gallico*, lib. vi. 26.

[c] Fisher, *Quarterly Journal of the Geological Society*, xxv. (1879) 670. See specimens in the Woodwardian Museum.

[d] Brown, *Ann. Mag. Nat. Hist.* 1839, p. 163.

[e] Woods, *Description of Fossil Skull of an Ox*, 4to, 1839.

[f] Tegetmeier.

[g] Harting, 214.

[h] On the Ancient Cattle of Scotland, *Proceedings of the Society of Antiquaries of Scotland*, ix. part ii. 587.

allied to this great ox, in the ruins of human dwellings," the brocks or Pictish houses of Orkney and Caithness. These records are, however, too vague to be of much value. In another similar case in Haddingtonshire the associated remains, as pointed out by Storer,[a] seem "to indicate the comparative recent date of these remains."

The formation in which the Urus has been most commonly found in the British Isles is the peat of the fenlands of East Anglia, a deposit, as I have shown elsewhere,[b] chiefly of Neolithic Age.

Werner[c] thinks that the short-headed ox bears a striking resemblance, particularly in the shape of the head, to the Abyssinian or Galla-zebu ox (*Sanga*), which is represented on ancient Egyptian monuments as a tributary of the Ethiopian races. He considers that on the strength of modern investigations we may fairly assume the ancestor of all European domestic cattle to have been the sole wild representative of the Taurus family, namely, the Urus (*Bos primigenius, Boj*), which makes its earliest appearance in Europe in the deposits of the Diluvial period, and the last-known specimen of which was killed in 1627 in the zoological gardens of Count Samoisky at Jaktorowo,[d] in Poland.

Nevertheless, he adds, some breeds of our European domestic cattle have most probably been derived from a cross with the Bibos, or even with the *Bos Indicus*.

Perhaps we may look to the Bibos cross for the explanation of the brachycephalus type, and to the humped-back Zebu, for some of the characters which were introduced into Europe through Egypt. It is a matter of observation that in such cross-breeds the humps of the Zebu is apt to disappear. Kuleschow[e] has pointed out that there is a resemblance between the skull of the Kalmuck ox and that of the female of Bos Sondaicus, and of the Zebu.

Werner recognises four varieties among European domestic cattle: 1. The *Bos taurus primigenius* of Rütimeyer; 2. The *Bos taurus longifrons* of Owen; 3. The *Bos taurus frontosus* of Nilsson; and 4. The *Bos taurus brachycephalus* of Wilckens. Wilckens himself gives as the modern representatives of these four types: of 1, the Dutch; of 2, the Appenzel; of 3, the Bernese; and of 4, his new variety, the Duxer breed.

[a] *Wild White Cattle*, 141.

[b] *Cambridge Review*, vii. 366.

[c] *Op. cit.* i. 14.

[d] Wrzesniowski, *Zeitschr. für Wissenschaftl. Zoologie*, 30 Bd. Suppl. 3 Heft s. 493-555.

[e] *Extrait du Bulletin de la Soc. Imp. des Naturalistes de Moscou*, 1888, No. 3.

On the continent the Urus, though perhaps not common, was known to exist down to the Middle Ages. In the Niebelungen Lied, Siegfried is represented as killing a Wisent (Bison) and four Uri. Heberstein, in the sixteenth century, mentions a beast of chase which he supposes to be the Urus. But in England no bones which could possibly be referred to the Urus have been proved to have been found with Roman or later remains, and no evidence has been obtained of its having ever been domesticated in this country. In the British Association Report on the wild cattle, presented at Manchester in 1887, it is stated that the Urus was probably the only indigenous animal of the genus Bos, not only in this country but throughout the Palæarctic region. But, even if this were granted, it would not prove that it is "the source of all our domestic breeds as well as of the white park cattle." If it has left its mark in any domestic cattle in the British Isles it can only be through the long-horned German cattle, of which strong traces may perhaps be seen in the Hereford breed, less conspicuously in the Glamorgan, and still less marked in the Pembrokeshire long-horned breeds. But, as we shall see, there is a spiral-horned Italian breed to which there appears to be a frequent resemblance among these long-horned cattle of South Wales.

IV.—*The Celtic Short-horn.*

Before the Urus had disappeared, the native short-horn, *Bos brachyceros* or *longifrons* (Fig. 3), had arrived in Britain. Some ox, with a small curved horn, is found with the mammoth in the older gravels, but we have not yet got enough of it to determine whether it is anything but a small bison, and it certainly cannot be stated in the present state of our knowledge that remains of *Bos longifrons* "are found in Britain associated with those of elephant and rhinoceros."[a] Rütimeyer calls it the "peat cow" or *Bos brachyceros*, a specific name, which has since had to give way to *longifrons* because *brachyceros* had been previously used for some recent breed. Rütimeyer considers that it is a stunted form of the *Urus*, *i.e.* of the *Bos primigenius* of Bojanus.

Bos longifrons was a very small animal; probably not larger than a Kerry cow. It was remarkable for the height of its forehead above its orbits, for its strongly developed occipital region, and its small horns curved forward and inward.

[a] *Encyclopædia Britannica*, v. 245.

Wilde[a] shows that a small race of short-horned cattle was common in Ireland from prehistoric times, but from his description of the remains found we should infer that it had been very early modified in some districts either by selection or crossing with a larger breed.



Fig. 6. *Bos longifrons.* Burwell Fen, Cambridge. Woodwardian Museum.

It is difficult to believe that all the scattered and associated bones of *Bos longifrons* which we find in the fens along with the remains of the beaver, the wolf, and the red deer, are those of domestic animals. They may, of course, be those of domestic cattle run wild; but if *Bos longifrons* was not indigenous, it must have been introduced by man into this country at a very remote period. At any rate, from its presence in such great numbers in pre-Roman and Roman times, as proved by excavations, we must admit a strong probability that some of our recent domestic breeds have been derived from it. Greenwell says that the bones of this species were abundant in Grimes Graves, which are of Neolithic Age. Nilsson thinks that it was once wild in Sweden, but Rütimeyer believes that it reached central Europe only as a domesticated animal.[b] Its bones are, however, common in the Lake dwellings of Switzerland, which date from Neolithic times. The Norway cattle of to-day, which closely resemble those of the Channel Islands and the Swiss mountains, are evidently derived chiefly from *Bos longifrons*. This is a question which cannot be settled by *a priori* reasoning nor on philological grounds, but only by an examination of the bones and of the exact association of remains during careful excavations.

Cæsar[c] mentions that there were large herds of domesticated cattle in Britain, and we know from numerous excavations into Roman and Romano-British rubbish pits that these belonged not to the Urus but to *Bos longifrons*. This then is the native breed with which we must start in all our speculations as to the origin and development of British oxen. The Romans found that breed here and no other.

Werner,[d] generalising from a large number of recent domestic cattle in which

[a] *Proceedings of the Royal Irish Academy*, vii. (1857-1861), 64.

[b] *Encl. Brit.* v. 245.

[c] *De Bello Gallico*, v. 17.

[d] *Op. cit.* [9].

the bony frame-work was found to agree with that of *Bos longifrons*, describes the breed as a small form, of slender, almost graceful build. The hide is of a uniform yellowish-grey, grey, or brown tint, white patches being uncommon. Other characteristics are, a lighter streak round the muzzle, a light iris, a black stripe down the back, the lighter colour of the belly and the inner side of the legs, the occurrence of lighter coloured hair within the outer ear, and long hairs on the rim of it. The skin and muzzle are always dark in colour.

If this description correctly represents the characters of the ancient *Bos longifrons*, it is an important confirmation of the views as to the origin of the Chillingham and Highland cattle urged in this paper, for it explains some of the commoner deviations from the Roman type and supports the contention that there were no parti-coloured animals in either parent stock.

Werner[a] further, in his remarks upon the cattle, says, "The Celts also took possession of part of England, and consequently we still meet with black-brindled Celtic cattle in Ireland and Wales, as, for instance, the Kerry and Welsh breeds and red Celtic cattle in the south of England, such as the Devons, Sussex, Herefords, and Long-horns." It is needless to point out that any classification which groups together the breeds above enumerated is entirely inconsistent with the history of the origin of our native cattle which is advocated in this paper. Werner notices the common and widespread reversion to a black-brindled type so common in Wales and Ireland, pointing to some ancestral form, the age of the introduction of which, however, still rests in obscurity.

V.—*The Romano-British Cattle.*

Where excavations have been carried on over areas long occupied by the Romans, it is found that the native breed has been modified and improved. The new breed (see Fig. 7) is larger, the horn-cores are stouter in proportion to their length, and, starting from the side of the head, have a tendency outward and upward, instead of having the strong forward curve of *Bos longifrons*. All intermediate sizes and shapes are found, from the small native to the new improved breed. The characters of the mixed breed are not such as could be accounted for by a cross with the Urus, even if we did not know that the Urus had long been extinct in Britain.[b] The skull found at Silchester and recently

[a] *Op. cit.*

[b] *Vide sup.* p. 5.

exhibited in the Society's rooms is an example of this type. The specimen I have figured was found in the peat near Reach Lode, north of Cambridge.



Fig. 7. Romano-British with horn-cores showing a tendency to turn up. Reach Fen, Cambridge. Woodwardian Museum.

One remarkable fact is worth recording in relation to this skull. The peat diggers, as their long trenches approached Reach Lode, always came upon a sort of bank, where the peat was harder and mixed with earthy material. This indicated that there had been a fosse dug through the peat to the underlying marl and clay, and that the bank was the upcast from this fosse. It was in the direct line from Reach to Upware, starting from near the great quarries which may date from Roman times and from the end of the Devil's Ditch, along which so many Roman remains have been found, and pointing straight for the southern end of the Upware island, where also there are abundant traces of Roman occupation. All the Roman pottery from this part of the fenland which I have been able to trace to its exact locality, was found along the line of this raised bank.

I dug out of the rubbish pits round the Roman town of Great Chesterford many characteristic heads of this type, which, with numerous other relics of the same date, I have handed over to the Cambridge Antiquarian Society.

Mr. Cadwallader Bates has sent me a photograph of the skull of an ox found in the deposit at the bottom of an old pond near the Roman station at Ilkley in Yorkshire, and now preserved in the museum at Ilkley. This evidently belonged to an animal of the *longifrons* type, as shown by its short curved horns, while the modification due to the Roman cross is seen in the upward inclination of the cores as they start from the skull.

Native British coins not unfrequently have a bull represented on them, and the bucranium or bull's head appears on the coins of many British princes. Bateman[a] suggested that this, taken in connection with "the not unfrequent occurrence of the whole or part of the head of the ox in British barrows, goes

[a] *Ten Years' Diggings*, 130.

far to prove the existence of some peculiar superstition connected with it, of which no notice has reached modern times," but a more satisfactory explanation will probably be found by tracing the design back to the early coins described by Ridgeway,[a] which were stamped with the cow as the unit of commerce. Moreover, as Sir John Evans[b] has pointed out, these British coins have Roman legends and are copies of Roman coins. They cannot, therefore, be considered as of much value as independent evidence.

We see represented on them the conventional thick, stumpy horns of a bull, but there is no approach to the type of the Urus, nor do the bones of the Urus occur, as far as I have been able to ascertain, among the remains of animals found in tumuli, which are generally nothing but the relics of the funeral feast, or perhaps sometimes of the food placed by the bodies of the departed, to support them on their long journey.

It would be rash to say that no domestic cattle ever reached the shores of Britain from the continent before the time of the Romans; but, although there is reason for believing that an improved breed allied to *Bos longifrons* has been found in the Lake dwellings of Switzerland, and that a closely allied domesticated breed existed at a very early period in Scandinavia (*Bos frontosus* being probably founded on a modified and perhaps domesticated form of *Bos longifrons*), there is no proof of the introduction of either of these, nor of Wilcken's brachycephalus type into Britain in pre-Roman times.

VI.—*The Roman Cattle.*

The first modification of the native small shorthorned breed (in this country) is always observed in connection with Roman remains. Let us, therefore, see whether we can obtain any evidence as to the kind of animal that must have been imported, if the Romans brought any of their own cattle over with them. With a view to this we must study the representations of oxen on mural paintings, sculpture, and coins of the date of the Roman occupation. We may gain some information about it from descriptions in Latin writers,[c] and we shall learn still more from an examination of the breeds still found in Italy and in the Roman provinces, with help from later historical notices.

We cannot suppose that the symbol of Italy should have been represented on sculpture and coins by a figure which did not correctly give such obvious characters as the upward or forward or downward curvature of the horns,

[a] *Op. cit.* [b] *Coins of the Ancient Britons*, 242. [c] *Cf. Werner, op. cit.* 21, *et seq.*

especially when we notice that a distinction is made between the horns of the different sexes.

There are two common patterns of horn which we may indicate in a homely way by comparing one to the prongs of a pitchfork when the handle is held horizontally (Fig. 8), and the other to the prongs when the handle is vertical (Fig. 9). If we turn to the figure of the Urus (Fig. 3) we see the first type with the horns curving forward in the plane of the animal's back, but if we look at the figures of Roman oxen (for example, Fig. 10) we shall find the second type. The horns are upturned, lying approximately in the plane of the occipital region. In most ancient representations of Roman cattle we notice a rectangular profile, a developed dewlap, and large hoofs as well as the lyre-shaped horns.



Fig. 8.



Fig. 9.

Another important feature is the colour, and from Latin authors we gather that there were commonly in Italy oxen of a fulvous or reddish colour. Black oxen were mentioned as appropriately slaughtered at funeral feasts; while the white sacrificial bull, though perhaps difficult to procure of faultless purity of colour, cannot have been uncommon.[a]



Fig. 10. Roman Ox, from painting on wall at Pompeii, as reproduced in Thes. Antiq. Rom. tab. 23.

VII.—*Modern Italian Cattle, type A.*

Another line of inquiry, suggested by this approach of the modified breed found with Roman remains in Britain to the type of ox represented on the paintings, sculpture, and coins of ancient Rome, is a comparison of both of these with the breeds of cattle now seen in Italy. Fortunately for our purpose the types do not seem to be very numerous. With the *Bubalus* or Italian buffalo we have now nothing to do, and the red and parti-coloured cows recently introduced for dairy

[a] Pliny, 22, 5, 5; Horace, *Od.* 4, 2, 60; Virgil, *Georg.* iii.

purposes are obviously distinct from the ordinary cattle used everywhere for draught. It is among these powerful beasts of burden that we must seek the traces of the old Roman breed.

Of these we notice two types, the first of which (A) is a rectangular large-boned animal with upturned lyre-shaped horns, a well marked dewlap, and, in the hard-worked beasts of burden at any rate, a conspicuously large spreading hoof. In all these particulars strongly resembling the oxen on the coins, sculptures, and paintings.

The Italian cattle are always whole coloured and symmetrically shaded, that is to say, there are none of them piebald, or sheeted, or black red and white in patches. They are generally mouse or fawn coloured, shading off to white underneath, and of every degree of intensity down to pure white. The insides of the ears, the muzzle, and the whole of the end of the tail are generally black or pink, the black being probably the character due to reversion to a primæval race, the pink being rather the perpetuation of albinism by selection.



Fig. 11. Modern Italian Bull, type A 1, with short upturned horns. British Museum.



Fig. 12. Chillingham Bull. British Museum.

If, now, we compare the skeleton and skull, especially of the modern Italian bull, with that of our Chillingham bull, we shall find them to be almost identical, and thus carry on the connection between the Roman cattle and our modern British breeds. Fig. 11 is that of a modern Italian bull, from the specimen

presented by the King of Italy to the British Museum. Fig. 12 is that of a Chillingham bull, presented by Lord Tankerville. These figures are drawn from photographs taken by the kind permission of Sir William Flower. I have had the pictures reduced to the same actual size to facilitate comparison of form only. The real proportions being, Italian, 23 by $8\frac{3}{4}$ inches, and Chillingham, 18 by $7\frac{1}{4}$ inches.

Although the inquiry to which I would chiefly confine myself commences with the importation of this type of cattle into Britain by the Romans, the views at

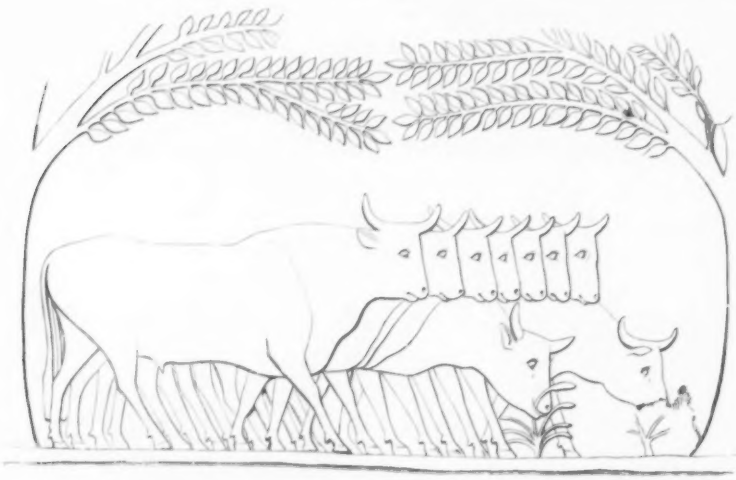


Fig. 13. Egyptian Cattle in bas-relief on temple of Hatshepsu, from photograph kindly lent by Miss Margaret Thomson.



Fig. 14. Italian, type A 2. Sicilian, with long upturned horns, from a hasty but clever sketch taken at Alcarno, in Sicily, by Canon Weston.

which I have arrived are strengthened by observing that it seems to have been stereotyped by ages of domestication in Egypt. The conventional representation of cattle from the monuments of the Rameses would do for a Roman or a Chillingham herd. The lyre-shaped horn is sometimes more, sometimes less, conspicuous, probably depending upon the age of the animals represented, but the upturned horn and general outline is common to all.



Fig. 15. Coin of Euboea.

The lyre-shaped form is more obvious in some of the longer-horned varieties, of which traces were to be seen, at any rate half a century ago, in Sicily, and is very distinct on the coins of Euboea.[a]

Both of these types, A 1 and A 2, belong to the southern group which came from Egypt through Southern Italy to Britain.

[a] Ridgeway, *Op. cit.* p. 306.

VII.—*The modern Italian Cattle, type B, Emilian.*

Another breed commonly seen in Italy, notably in Emilia and Umbria,[a] is a large animal with enormous horns growing spirally outwards from either side of the head. In colour and general appearance these are very like the breed A 1 with the upturned horns, which appear to be the form most commonly represented on the coins and sculpture of the Romans. The Emilian cattle are generally larger but differ in the shape of the horns, which are often much longer than those in the sketch. There are intermediate varieties, but the two types are obviously distinct. There is a tradition that these great Emilian cattle, especially those of the Val di Chiana, were imported from Podolia, but I have been unable to learn anything definite on this point. If they were, they should probably be referred to some ancient breed lingering on the northern borders of Greek civilisation, to the ἕλικες βοῦς of Homer in fact, and not to any indigenous Russian race. If, as we shall see, there is ground for suspecting that some of their racial characters may be detected in the patulous-horned bullocks of Hereford



Fig. 16. Modern Italian breed, type B, Emilian, from a sketch by Miss Sibylle Hall.



Fig. 17. Abergavenny Bullock.

and South Wales, we must trace these back to animals imported by the Romans, and thus derive them through Northern Italy, from Greece, and Asia Minor. But in speculating on the origin of the races on the borders of Wales we must not forget the influence of the beef which Taffy used from time to time to steal from his Saxon neighbours.

[a] Cf. *Lucan, Phars.* i. 473; Stat. Sylv. i. 4, 129.

Roman Provinces, &c.

If we now turn to other districts occupied by the Romans we shall find the same story told by the cattle. Traces of the Italian breeds are everywhere seen. In Rhætia, whether we explain the fact by reference to the tradition that it was peopled from Etruria or to the centuries of Roman occupation, there still exists a tall, slightly-built breed of silver-grey horned cattle resembling those of Italy.[a] The beautiful fawn-coloured, long-horned Spanish cattle are derived from crosses of the later-introduced Roman breeds with some fine Iberian stock, which was itself probably of Egyptian origin, and therefore, as we have seen above, of the same type as that of Southern Italy.

This suggestion is borne out by and explains what Darwin records respecting the wild herds of South America.

VIII.—*Modern Spanish, South American, &c.*

The cattle of South America are, of course, directly descended from those brought over by the Spaniards, and nothing is more probable than that cattle in such circumstances should revert to the whole-coloured, symmetrically-shaded type; and also, if the lighter colours were the commoner in the original stock, as appears to be the case among the Italian cattle to-day, that this character also should be prevalent among their descendants, when breeding without selection and under feral conditions.

In the Falkland Islands the cattle, which were introduced from La Plata, and have run wild for at least a century, are "white, with their feet or whole head or only their ears black."

Anson records that the wild oxen in the Ladrone Islands, which were all introduced by the Spaniards, are milk-white except their ears, which are generally black.[b]

In all these cases we need not seek an origin in some unknown wild race when we see to-day on the plains of Italy an ancient breed with strong prepotency of transmission, which, as far as we can gather from the evidence of monuments and history, resembles, in all essential characters, the breed which the Romans must have taken with them wherever they established themselves; and there are few outliers of civilisation which we do not directly or indirectly owe to Rome.

[a] Kalnegger, *Der Oësterreichischen Rinderrassen*, i. 4 Heft, s. 105.

[b] Anson's *Voyages*, bk. iii. ch. ii. 309.

IX.—*Swiss Cattle.*

We might expect to obtain useful evidence bearing upon our inquiry if we could find some other region in Europe where the conditions were similar as regards cattle breeding to those we have shown to have prevailed in Britain at the time of the Roman invasion. In Switzerland we seem to have what we seek. We know, from an examination of the *fauna* of the Lake dwellings, that *Bos longifrons* was the common type of ox there in pre-Roman times. We know that the Romans occupied Switzerland, and there we must have had *Bos longifrons* modified by crossing with the Roman breed. In accord with this we find to-day, along the low rich lands around the mountains, the Roman type prevailing. The cattle are identical with those of Italy. But as we go further up into the mountains the native short-horned race has not been wholly superseded. The mixed breed resembles almost exactly that of the Channel Islands. It is obviously derived from the native short-horn modified by a cross with the larger southern cattle introduced by the Romans. It is whole-coloured, shaded from mouse or fawn colour, or from black or red, to light below. It has small horns growing outward from the side of the head, and turning more upward or forward, according as they take more after one or the other parent stock. The original Ayrshire breed has much the same characters.



Fig. 18. Swiss Mountain Breed. Zermatt, from a photograph by Horace W. Monckton, Esq.

It is not impossible that the Celtic short-horns (*Bos longifrons*) should, by selection and care, have become the parents of a larger breed, and perhaps *Bos frontosus* may have been so developed. But, seeing that in the Roman ox, as represented in contemporary works of art, as described in ancient writers, as seen in its descendants in Italy at the present time, we find exactly the type towards which improvements were tending, as inferred from the skeletons of the oxen dug up among Roman remains in Britain and elsewhere, it is more probable that the differences that we observe were due to crossing with the cattle which

the Romans brought over with them, and which had the very characters towards which we see an approach in the modified form.

It is an interesting fact, that the yellow or fawn colour comes out so commonly where there is reason to suspect a commingling of two or more ancient breeds.[a]

X.—*The White Park Cattle of Chillingham, etc.*

Let us now examine the varieties of the so-called wild white cattle. If a selection of the lighter coloured individuals of the common draught-ox of Italy were turned out in a park in England, no one would suspect that they did not belong to the wild white breed. There would be less difference between them and the Chillingham cattle, in essential characters of form and colour, than there is, for instance, between the Chillingham and Chartley herds. In both the wild white cattle and the Roman breed we have a rectangular animal with upturned black-tipped horns, a tendency to be symmetrically shaded from a mouse or dun or fawn colour to white, black or pink-lined ears, and black tail-ends. A comparison of the skeleton of the Chillingham bull in the British Museum with that of an Italian bull presented by the King of Italy (see p. 15, Figs. 11, 12), shows that there is no essential difference between them.

We may set aside as of no value all the evidence founded on the ancient continuity of impenetrable forests over the country in which the white cattle have been preserved, which has suggested that they are isolated herds of some primeval indigenous breed that lived in those forests. Cattle only seek woods for shelter, and dense and extensive woods would not facilitate but arrest the migration of animals that usually feed in the open plains.

Anyone who has seen the gradual acceptance of the modern Durham or short-horn in the northern and western counties will readily understand the advance of the Roman cattle in England. The short-horn bull was not turned out on to the mountain pasture or fell side. Only the more wealthy and enterprising had a herd of thoroughbred short-horns. But a half-breed became common and the thoroughbred soon followed. If any of these people had to move on, their first care would be to take with them their best cattle. Those that roamed half wild over the unenclosed land like the mountain cattle could be less easily transported,

[a] *See* Darwin, *passim*; Sanson, quoted by Werner, *op. cit.* 22; Feser, *Zeitschr. d. Landwirthschaftlichen Vereins in Bayern* (*Wahrnehmungen über das rothbrauner Oberfalzer-Rind*), Aug. 1884.

and in all probability often became wild, and gave rise to the medieval stories of the *Bubali* or *Tauri sylvestres*. Bubalus would have been used in those days for cattle that had run wild. *Bos camporum, bubalus nemorum.*

Thus the breed improved by the Roman stock would be driven away to the west and north before the Teutonic and Scandinavian invaders, no cultivation or selection being possible in those troublous times which followed soon after the Roman legionaries had been withdrawn and the various peoples of north-western Europe were taking possession of the country or making temporary incursions into it. There was no longer such security as had allowed the ordinary Romano-British farmer to improve his breed and isolate the higher class cattle in enclosures. But, where here and there a larger herd of the better breed had been surprised or anyhow secured, it is not likely that the new comers would destroy them. They would be kept in the enclosures and parks of the new lords of the land and handed on more or less pure to the feudal and ecclesiastical establishments of early medieval times. This explains why, in all the so-called wild white cattle of Britain, there is a common tendency to a symmetrical shading of mouse or dun or fawn colour, but a variation between the different white herds in respect of reversion to the party-coloured German type.

Where the herd was founded on the light coloured Roman breed, without any considerable mixture of other different strains, the Chillingham type prevails, but if the herd was frequently modified by the introduction into it of white calves that appeared among the more southern breeds, where the influence of the newer importations of German cattle was beginning to be felt, the type would be that of Chartley. Storer,[a] giving an account of his first visit to Chartley, says, "My astonishment was great at finding that instead of resembling the Chillingham animals, they were of a different variety, and were really "long-horns," their general characters being the same as those of the old long-horn breed, which were the ordinary stock of Derbyshire and Staffordshire, till about fifty or perhaps sixty years ago."[b] In the Lyme breed the long-horn type comes out still more strongly.

Low does not seem to have noticed this, for he says, "The wild white forest breed, though reared for ages in parks in the West of England and Scotland, never assumes the characters of the long-horned race."

It is just possible that we may have in the Chartley and Lyme herds a trace

[a] Storer, *op. cit.* 240.

[b] Low, *The Domesticated Animals, &c.*, 369.

of the ancient spiral-horned Emilian and Umbrian breed, but it seems on the whole more probable that the difference is due to late crosses with German long-horns.

There is no history of these herds going back more than about 200 years, and, within that time, plenty of evidence of crossing with domestic breeds. Thus, there is strong probability that the breed was often modified by turning out with them good young stock which took after the white sire, to say nothing of the results of accidental inroads by domestic bulls. There are abundant traces in the character of the herds to prove that such crosses have taken place, even if the historic evidence did not tell the same tale.

The Chillingham bull with mottled feet, exhibited in the Zoological Gardens, is an obvious example of reversion to a cross of some such party-coloured slouching-horned breed. The animal selected as typical by Landseer was quite different, and so is the skeleton in the British Museum. The drooping horns are such as characterise animals which have a tendency to become polled, as is the case with many of the white park cattle, notably in the case of the Cadzou herd. What the conditions are which tend to produce polled cattle seems not to be clearly made out. That there were hornless cattle among the Germans in Roman times might be inferred from Caesar's [a] description. Herodotus [b] also mentions the hornless cattle of the Scythians, from which Middendorf [c] supposes the hornless cattle of North Russia are descended.

The horn, which is a development of the skin, is less easily modified than the core, which is a part of the bony structure of the skull. Lord Selkirk has given an account of the increase in the number of hornless animals in Galloway due to selection and breeding, in answer to the demand for polled cattle, and has pointed out that often a small horn hung on the skin when there was no bony support for it on the skull. Akerblom has described some Swedish breeds which have stunted horns set loosely in the hide without any bony horn-core.

In all hornless cattle, and generally in breeds in which there is a tendency to become polled, the occipital region is developed into a strong, undulating, protuberance; whereas, in such a form as the Urus, in which the horns are of great length, there is no prominent ridge between the horns.

[a] Germ. 8. [b] iv. 29.

[c] *Uber die Rindviehrasse des nördlichen Russlands und ihre Veredelung; in Landwirthschaftl.* Jahrbuch, Berlin, 1888. Translated by Bajobr, s. 299. Cf. *Hehn, Kulturpfl. und Haustl. &c.*, 1874, ii. s. 410; *ritzinger Wissenschaftl. populäre Naturgeschichte der Säugethiere*, V. Band, s. 612, Vienna, 1889.

The herds of white cattle, both at Chillingham and elsewhere, have to be carefully watched, because coloured calves are frequently dropped.[a]

It is probable that when a white calf appeared among the herds outside it was in former days commonly turned into the park with a view to improving the size and stamina of the ancient white stock,[b] and in ignorance or neglect of the fact that it carried with it a tendency to revert to the colour of its own immediate ancestors.

Colour is not such an unstable element in cattle breeding as is supposed by some. In fact, it is so only within very narrow limits, and any marked variation can generally be traced to some not very remote cross.

In the report of the committee of the British Association already referred to, on the Herds of Wild Cattle in Chartley Park, and other Parks in Great Britain, presented at Manchester in 1887, it is stated that "the Urus was probably the only indigenous wild ox,[c] not only in this country but throughout the palæartic region, and the source of all our domestic breeds, as well as of the White Park cattle; and we may fairly trace these park herds back to the *Bubali* or *Tauri sylvestres* which are mentioned[d] as occurring down to mediaeval times, but whether these animals were genuine Uri or feral cattle admits of some doubt."

It states that there is a tendency among the white park herds to throw black calves, or calves marked with black or red, and mentions one park in which "calves produced by the park cows are kept, if correctly marked, &c., even when the sire was probably a common bull," and other cases in which they had at various times crosses with ordinary Highland, Ayrshire, and Indian cattle.

Although the tendency to revert to a fawn or mouse or dun colour points to the original of the Chillingham herd having been the same as that of the modern Italian beast of burden, selection has caused the lighter shades to prevail. White animals have always been looked upon as of special value. White sacrificial bulls must have been imported by the Romans, who would also keep a selection of such as they could procure from native sources. They would not have been considered so valuable if there had not been at first some difficulty in procuring them. White elephants, white deer, and white asses have always been regarded with superstitious favour. The Hindu of to-day looks upon the white bull as sacred, and only a few months ago a white bullock was presented to General Joubert by Malabroch, a South African chief, as a peace-offering.[e]

[a] Storer, p. 196, *et seq.* [b] *Ib.* p. 203.

[c] *i.e.* Of the genus Bos; there was in addition the Bison. Moreover, it is implied that the Urus had not become extinct, and *Bos longifrons* is ignored.

[d] By Matthew Paris, FitzStephen, and others. [e] *The Times*, June 14, 1894, p. 5.

In the Middle Ages we read of their being able to hand over pretty large herds of white cattle on demand.

In the laws of Hywel Dda,[a] A.D. 940, it is ordered that white cattle with red ears should be paid to the Princes of Wales, and one of them demanded on one occasion 100 white or 150 black cattle, which shows the greater value attached to the white.

Maud de Brecon [b] sent to King John 400 cows, and one (?) bull, all white, with red ears, to appease his wrath. These, of course, were all domestic cattle, for it was difficult enough to send tame beasts out of Breconshire to England in those days, but would have been quite impossible to send wild cattle. I remember relations of my own who were disappointed of their Christmas beef because the bullock which was to have supplied it had escaped up into the mountains. Such runaway cattle would in old times, with woodlands to hide in, have easily reverted to "feral" conditions.

The story of Twm Sion Catti and the white ox carries this regard for the colour down to much later times. Twm Sion Catti was born in 1590. A pair of oxen were ploughing together, one was black and the other was white. Twm wanted to steal the white ox, so he drew the boy away from his charge by letting out a wired hare in front of his corgi, and, as the dog was gaining on the hare, the boy could not resist the temptation and followed, looking back from time to time to see that the white ox, at any rate, was safe. Twm, watching his opportunity, threw a sheet over the black ox and drove the white ox away. The point in the story to which I wish to call attention is the greater value attached to the white ox by the ploughboy and by Twm Sion Catti.

Such being the case, it was probable that white cattle would be selected and kept together in enclosures, in order to have a supply ready when required. There would be thus induced a tendency to fixity of character; and, as these cattle had a higher value, the invaders would not destroy them or turn them out. So that ancient enclosures with white cattle would be kept up.

When in early times there was a larger proportion of dark-coloured animals, the appearance of a white calf was regarded as a portent, and exaggeration soon added other peculiarities. At the birth of Claudius Albinus,[c] for instance, "multa imperii signa, quam esset natus facta dicuntur, nam et bos albus pur-

[a] *Myvyrian Archæology*, ed. Owen Jones, Denbigh, 1870, cap. ii. § 3, pp. 1014-1062.

[b] Speed, *Hist. Great Britain*, folio, 1611.

[c] Grævius, *Thesaurus Antiquitatum Romanorum*, 797.

pureis ad plenum colorem cornibus natus est." Those who in later times possessed white cattle in the same way looked upon the appearance of a black calf among them as a portent.[a]

The descriptions of the wild bulls of the Caledonian forest have been handed on from one writer to another, with so few variations and additions, that we cannot but feel that the opportunities of observation on which the accounts were based had not been numerous. There is no circumstantial account given by anyone who had seen them himself. Boethius, among the first, described them as of the purest white, with manes like lions. The modern white park bull is always described as having a shaggy coat, which is yellow and dirty from the earth which he throws over his forequarters when pawing the ground.

An inexperienced stranger, who for the first time had seen a highland bull charging with his head down, and his high shoulders covered with rough curly hair, would probably, when he got home, give such an account of the animal from which he had escaped as would leave much doubt as to whether he had not seen a bear or a bison, but would hardly suggest a bull. The official reports[b] respecting the ravages of a supposed monster wolf in the south of France a little more than a century ago teach us to regard such evidence with suspicion.

Some importance has been attached to their having been called wild beasts,[c] but anyone acquainted with grazing counties will know that all cattle are commonly called beasts, sometimes with a more and sometimes with a less restricted meaning; just as in a partridge country, "have you seen any birds?" would never be taken to refer to any other members of the feathered tribe than partridges. And as for their being spoken of as wild, that would not mean that they were unreclaimed, but only that, within certain limits, they roamed and bred uncontrolled, as do the cattle on ranches, which have all sprung quite recently from domestic animals. In most cases it probably conveyed little more than we mean when we talk of the ponies which run wild on the mountains of Wales, and the misunderstanding of the use of words which founds an argument upon the application of the term wild beasts to the white park cattle is of the same kind as that which gives point to the story of the Frenchman who boasted, in excuse for his want of success in deer-stalking, that he had killed of the "savage mutton ver' many".

The view that the white park cattle are not derived directly from any wild

[a] Storer, 221-237.

[b] Baring Gould, *The Deserts of Southern France*, i. 112, *et seq.*

[c] Storer, 91.

race, but from an ancient domesticated breed, is strongly supported by the fact that they calve at all seasons. Their bones are fine according to Rütimeyer, whereas the bones of the Urus are coarser than those of the Bison. Indeed the difficulty in the case of the white park cattle is not so much to tame them as to keep them wild.

I dare say there are some who will regret the necessity of giving up the old idea that the wild white cattle of our parks are the direct descendants of the mighty Urus of the Stone Age. But if the views here urged should be correct, their pedigree is probably as long as, or even longer, than that would imply, and certainly carries them back to a very noted stock with a historical record of some five thousand years. For there is little doubt that, through the light-coloured oxen of southern Italy, their original must be traced to the herds figured on the monuments of Egypt, and their herd-book should commence with the well-known bull Apis.

XI.—*Highland and Welsh Cattle.*

Before we can feel satisfied that we have in the Italian cattle brought over by the Romans and the little Celtic short-horn the origin of all our more ancient breeds of domestic cattle, we must consider the principal types and their distribution and see how what we know about them agrees with the theory.

We easily find the traces of *Bos longifrons*, not only in all excavations from Roman times on, but we see the type in the Kerry cow and, less clearly, in the small black cattle of the Welsh mountains. It probably forms the basis of the Channel Island cattle, though there is some reason for suspecting that this breed was introduced from a district where *Bos longifrons* had long been improved into the variety to which the name of *Bos frontosus* was given.

Then we find in the Chillingham cattle the purest representatives of the Roman cattle, the divergence of character in some of the white park herds being due to crossing, in much later times, with various imported breeds, rather than to a larger admixture of the old native stock of *Bos longifrons*.

The kyloes belong to the same type, though locally, and especially round the borders of the Highlands, modified by selection and by crossing with later importations.

It seems to be sometimes better in such cases to take, by way of illustration, the sketch by a good artist who has studied the characteristics of a large number

of individuals, and who, therefore, gives as it were a compound photograph of many examples, rather than to reproduce the photograph of one animal that accident has thrown to the front. In the cow taken from MacWhirter's picture[a] of Highland cattle coming down a glen through snow, the lyre-shaped horns are very accurately represented.



Fig. 19. Highland Cow. After MacWhirter.

"The Chillingham cattle," says Vasey,[b] "are white, and the Highland cattle or kyloes black, but with this exception the very same description might serve for both breeds."

When Sir John Orde wanted to make up the Kilmory herd from a white Athole bull, he selected the kyloe or West Highland cow as most resembling it,[c] and the herd is described by Mr. Chandos-Pole-Gell as "exactly like the ordinary West Highland cattle, only white in colour."

The Welsh cattle may be regarded as a variety of the kyloe, except some remnants of the small Celtic short-horn in the mountain districts and some modified by a cross with long-horns on the border lands. But, of course, in every area long isolated we may expect varieties due to the peculiar character of the herds that were driven there after Roman times, the cattle that were there before, and the breeds that followed after.

More definite evidence is offered by Professor Low.[d] "The parent stock of the mountain breeds of Wales, it has been seen, is distinguished by a tapering upright horn. As the mountainous country passes by gradations into the lower, the cattle deviate from the native type, and assume insensibly the character of what are termed long-horns. This character is indicated by the direction as well as by the length of the horn." Low is not speaking of the small mountain breed of the *Bos longifrons* type, but of the passage from the Welsh cattle of the kyloe type into that of the long-horns. What he describes is easily explained on the view that the Welsh mountain breeds, which had much of the Romano-British character, were being encroached upon and modified along the border lands by the later German breeds, such as were represented by the old English long-horns. All along the rich pastures of south Wales, from the alluvial plains of the Severn and the Wye, we find a large native breed, modified by some later-introduced cattle from the east.

[a] From "The Vanguard."

[b] Vasey, *op. cit.* p. 170.

[c] Storer, 349, 355.

[d] Low, *The Domesticated Animals, &c.*, 306.

The Herefords seem to have retained much of the form of the Castle Martin ox; but the red and white, almost symmetrical, colouring of some valued cross has been stereotyped by care. The Glamorgan breed belongs to the same type, but is black or iron-grey, irregularly marked with white; while in the black Castle Martin, as in the cattle of the corresponding northern promontory of Carnarvon, we have some still more ancient stock, in which, especially among castrated animals, we see many of the characters of the Emilian ox. And nothing is less improbable than that the Romans introduced some of the Emilian breed with the long spiral horns proceeding horizontally from either side, so that their axes are in one straight line, as well as their common cattle with the upturned lyre-shaped horns.

"The Kerry breed," says Low,[a] "the Devon, the Welsh, and the Scotch Highland differ as much from the long-horns as the white man from the negro; and the two classes retain their character distinct, though naturalised in the same tract of country beyond all records." This is a very important observation in connection with our present inquiry. Low groups together the Kerry, the Chillingham, the Highland, and the Welsh cattle. These, according to the view now urged, are all derived from *Bos longifrons*, more or less modified by the imported Roman breed; the Kerry representing the purer *Bos longifrons*, and the Chillingham and Ayrshire more nearly representing the Roman type. The long-horns, from which Low thus distinguished all the old native breeds, were a later introduction of which no traces are found with Roman or early medieval remains. They are derived from the German breeds brought over from the continent in later medieval times.

There are some, I have no doubt, who will see in the long forward slouching horn of some Welsh cattle evidence of descent from the Urus; but, in the first place, it must be remembered that these characters appear only in castrated animals; and, secondly, that they are found only in the line of advance of the English along the south and less commonly along the north-west of Wales, and point to the gradual introduction of German cattle, which may have in them some of the blood of the Urus.

XII.—*Medieval Reversion to type of Bos longifrons.*

During the Roman military occupation the farmers lived in security through the length and breadth of the land. Careful selection, and enclosure, and tending

[a] *The Domesticated Animals, &c.*, 369.

of cattle were possible, and the better Roman type prevailed. But, when the legionaries were withdrawn, and the invading hordes of Teutonic or Scandinavian race made it impossible for proprietors to live as before in the rural districts and attend to the improvement of stock, as we have remarked above, the best bred cattle were driven away to the north and west, and the cattle which were left soon degenerated, the towns became larger, and the population generally lived within fortifications of some sort. The bulls roamed over the open pasture and there was soon a reversion to the type of the native breed, which was, even in this part of the island, always numerically stronger. For we must remember what raiding was in those days; 100, or 1,000, or more, head of cattle were driven away at once, quite enough to determine the character of the breed in the country into which they were taken. The same thing was going on in Cæsar's time in Germany, and is going on still in Africa and many other parts of the world. The cattle which had been improved were driven away with the Romanized British, or afterwards carried off by them into the far west and north, and have there been preserved to the present day in the Welsh and Highland breeds. These represent the native stock crossed by the cattle imported by the Romans, while in some enclosures the more pure Roman breed was preserved.

As might be expected, therefore, we find in medieval refuse pits or town ditches where rubbish was shot that the horn-cores and other bones of oxen belong to a breed very like the Celtic short-horn.

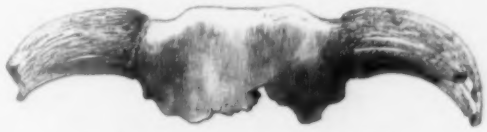


Fig. 20. Horn-core from medieval ditch. Woodwardian Museum, Cambridge.

In the ancient ditches cleared out in digging for the foundations of the new buildings in Sidney Street, Cambridge, and in Petty Cury, or for those of the University Press extension buildings in 1892—1893, out of over 125 horn-cores there were none that could be referred to a long-horned breed, and few that showed any traces of the Roman type. The associated pottery referred these to a date between the twelfth century and the fifteenth.

In some of them we find a very strong development of the occipital ridge, an almost bison-like protuberance in some cases. There is occasionally a large flattened but still short stumpy horn, and sometimes among these a more obviously pedunculated core; and, although we must admit the possibility of the occasional introduction from the Continent of breeds already considerably modified, such as might for instance have a cross of the *frontosus* or of the

brachycephalus type, or even of the Gayal, still there does not appear to be any such numbers of these modified forms as would point to any extensive importation of them, or any such constancy of character or regularity of distribution as would lead us to refer the variations to design, but rather such as would suggest the unstable condition of a mixed breed reverting sporadically to various primæval types, but principally to the numerically predominating *Bos longifrons*.

I showed my collection of medieval heads and horn-cores to several agricultural friends, asking them if there was anything in it that struck them as peculiar, and all agreed on this point, that the cores belonged to one breed of small short-horned cattle. I have given a fuller account of them in my papers on the *Mediæval Ditches of Cambridge*.[a]

XIII.—*Long-horns.*

The next change in the character of our cattle was due to the introduction of the Friesland oxen and the other long-horned animals from Jutland and the Lower Elbe which went on at intervals from the fifth century. Out of these, slightly modified by a French element among the cattle introduced by the Normans, arose our large party-coloured breeds from crosses of which with one another, and the cattle previously existing in the island, we have got the fifteen or more varieties that we now possess.

Whether or not we have in the great round-faced long-horns a trace of the brachycephalous type, or of one of its ancestors, we may certainly refer it to a cross with North German and South Scandinavian cattle which came over in somewhat late medieval times. The abnormal and irregular horns which characterise it, being as usual most conspicuous in castrated animals, point to its being a mixed breed.

Interesting examples of this long-horned type have recently been sent to me by my friend Mr. Francis Barclay, of Leyton, in Essex, with the following account. He dug them up on the [Epping] Forest House estate two years ago. The ground slopes gradually from either side down to a small stream, and the horn-cores were found in clayey soil about 14 inches below the surface, arranged longitudinally three abreast, only one layer deep, and at the bottom of drains[b]

[a] *Proc. Camb. Antiq. Soc.*, Jan. 25, 1892, Oct. 23, 1893, viii. 32, 255.

[b] For the use of horn-cores for road-making, fences, etc. see Kalm, *Visit to England*, 1748. Translated from the Swedish by Joseph Lucas. London, Macmillan, 1892 (T. I. p. 406), p. 69; *Proc. Camb. Antiq. Soc.* viii. 273.

running down the slope almost at right angles to the direction of the stream. There were no other bones of any kind with them, and none of them had more than a very small portion of the skull attached to the core. They were discovered in three or more places on the estate by the workmen who were draining the land, and from their condition and various circumstances it was inferred that they had been buried about 200 years ago. They obviously belong to a breed quite distinct from the *Bos longifrons* which the Romans found here, and from the modified *Bos longifrons* which they left here.

Low says of the long-horns: "Their horns were long, and bending downwards, a peculiarity, however, which seemed to give place to the influence of external agents, since at the eastern and southern limits of the breed in England their horns frequently turned upwards, in the manner of other cattle inhabiting these districts." Obviously this modification was due to crossing by the native stock, for Low had pointed out just before that "the two classes retain their character distinct, though naturalised in the same tract of country beyond all records."



Fig. 21. Horn-core from ancient land-drains, Epping Forest. From specimen given to me by Francis Barclay, Esq. Woodwardian Museum.

We must be careful not to infer too much from isolated examples of peculiarities of form in the horns of cattle. The manner in which the curvature can be regulated artificially [a] shows how easily accident might produce modifications. But when we are dealing with large numbers, such as were obtained from the medieval ditches round Cambridge, there is not much danger of mistakes of that kind.

I give a rough sketch of a cow from the herd of Mr. Matthew Hewitson, of Hardendale, near Crosby Ravensworth, in Westmoreland, one of the last of the celebrated long-horn breed. This herd passed into the possession of Mr. Rigg, of Grange, on whose farm one half-bred descendant of the race still lives. He has, however, four stuffed heads which show a remarkable variety of form and direction in the horns.

That these long-horned German cattle had no cross of the Urus in them it would be rash in the present state of our knowledge to assert. It is almost

[a] See for example R. W. Felkin, F.R.S.E., Notes on the Madi or Moru tribe of Central Africa, *Proc. R. Soc. Edinb.* xii. 303, *et seq.*

certain that the Urus, like all the rest of its genus, could have been domesticated, and that the stories of its being irreclaimable, and of its antipathy to domestic cattle, arose from confounding the Urus with the Bison.

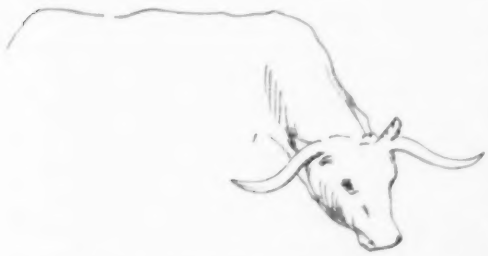


Fig. 22. Long-horn Cow. Hardendale herd. From a sketch by Canon Weston.

That it had no genetic connection with the large-horned cattle of Hungary, and the spiral-horned oxen of Emilia, it would be equally unsafe to assume; for among the long-horns, as well as among the Hereford and the South Wales cattle, in castrated animals especially where the form and direction of the horns becomes unstable, we very commonly find examples reminding us of all these ancient long-horned types. Although we may entertain the possibility of the introduction by the Romans of a long spiral-horned beast, such as is now represented by the Emilian breed, we must bear in mind that no traces of any such animal has as yet been recorded as having been found among Roman remains in Britain, nor do any examples of horn-cores of this type occur among the older medieval remains such as those found in the Cambridge ditches.

The largest of the Forest House specimens measures 10·5 inches round the base of the core, and another fragment measures 13 inches along the outer curve, which indicates a probable spread of 40 inches from point to point; a size far exceeding the largest of those procured from the Cambridge ditches, which cannot have been more than a foot to 18 inches from point to point, according to the amount of divergency in the horns.

Perhaps when attention has been more strongly directed to this most important line of antiquarian research we may obtain further evidence on these doubtful points. At present the subject is almost entirely neglected, and there is no museum in which this line of enquiry can be followed up, and hardly any one which will provide for the safe keeping of such objects if presented to it.

Professor Owen[a] wrote: "My esteemed friend Professor Bell, who has written the history of existing British quadrupeds, is disposed to believe, with Cuvier and other naturalists, that our domestic cattle are the degenerate descendants of the great Urus. But it seems to me more probable that the herds of the newly conquered regions would be derived from the already domesticated cattle of the

[a] *Op. cit.* p. 500.

Roman colonists, of those *boves nostri*, for example, by comparison with which Cæsar endeavoured to convey to his countrymen an idea of the stupendous and formidable Uri of the Hercynian forests."

All the excavations of which I have been able to obtain any record support the view that the larger ancient breeds of Britain are the results of a cross with the cattle introduced by the Romans and the small native breed. But, although some of our existing breeds very nearly represent the pure Roman stock, still the native domesticated *Bos longifrons* is the common form found associated with Roman remains in this country, and a slightly modified form of it is the only ox found among remains dating from the tenth century to the thirteenth. Therefore *Bos longifrons* must be considered the numerically predominant breed down to the time of the introduction of the long-horned oxen from North Germany and the Low Countries, which may or may not have been derived from the Urus.

Professor Dawkins[a] combats the view of Professor Owen that our breeds were derived chiefly from the cattle introduced by the Romans, urging, among other reasons, that "when the Romans conquered Britain, there was no need of their importing cattle from Italy, for they found a breed (*Bos longifrons*) used to the climate, and to the half-wild life which, in a country for the most part uncleared, must have been their lot." *Bos longifrons*, according to him, "is the ancestor of the small Highland and Welsh breeds," and "is essentially the animal with which the archaeologists have to deal." The Chillingham cattle, and the larger breeds of Western Europe, he considers to be descendants of the Urus.

The view now put forward differs, therefore, from that of Professor Dawkins, in regarding the Urus as extinct in Britain before Roman times, and in referring the Chillingham herd and the earliest improved breeds to the influence of the cattle introduced by the Romans. The opinion now advocated agrees with that of Professor Owen in not regarding any of our more ancient domestic cattle as the degenerate descendants of the great Urus, but differs from his view that they were all derived from the already domesticated cattle of the Roman colonists, in that great importance is here attached to the influence of the large herds of domesticated *Bos brachyceros* (*longifrons*) which the Romans found in Britain.

XIV.—*Summary.*

We may take it, therefore, as pretty well established that:

The *Bison* belongs to the Palæolithic Age, but became extinct in Britain

[a] *Quart. Journ. Geol. Soc.* xxii. 392. [b] *Op. cit.* p. 500.

before Neolithic times. No domestic breed can be traced to it. Some difficulties in the history of the Urus are due to the Bison having been confounded with it in early descriptions.

The *Urus* characterises the Neolithic Age, having first appeared in Palæolithic times with the Bison, and having become extinct in Britain long before the Roman occupation.

The *Celtic Short-horn* appeared with the Urus in Neolithic times, lived down to and through the Roman occupation, and thus may be regarded as the characteristic ox of the Bronze age. The Romans improved the Celtic Short-horn by crossing it with cattle imported from Italy. The form of the Roman ox, as inferred from contemporary art, being exactly what was required to produce the modification observed in the later Romanised breed. The characteristics of the Urus nowhere appear among the Romano-British cattle.

The *Kerry Cattle* are the most typical examples in the British Isles of the Celtic Short-horn, while the Chillingham cattle are the nearest representatives of the breed introduced by the Romans.

The *Highland and Welsh Cattle* are derived largely from the Roman breed, with more or less mixture of the Celtic Short-horn.

All the above are whole coloured or shaded.

The *Long-horns*, which appear nowhere with Romano-British or early medieval remains, are the offspring of the large breeds imported from Holstein and the Low Countries in later medieval times. All these, and the stock crossed with them, are apt to be party-coloured or sheeted.

The *Medieval Short-horn*, as found in the ditches, &c. of the eleventh, twelfth, and thirteenth centuries, is a reversion to the numerically predominant native breed (Celtic Short-horns), after the legionaries had been withdrawn and selection and breeding had become impossible.

As the Romans had improved the small Celtic Short-horn by the introduction of Italian cattle with up-turned lyre-shaped horns, so the Germans, by the introduction of long-horns, improved the degenerate breed which was due to the reversion in early medieval times to the native short-horn.

The *Durham and Modern Short-horns* belong to a much later period, and do not come within the scope of this inquiry.

VII.—*The Battle of Bosworth.* *By* James Gairdner, *Esq.*

Read January 24, 1895.

To make a satisfactory study of the story of a battle it is no doubt desirable to visit the field of action and examine it carefully with one's own eyes. Where much time has elapsed and many changes have taken place in the aspect of the country the written records are not always easy to interpret; and where even these are scanty and obscure a large number of open questions will naturally be the result. Such has been the case with the famous battle of Bosworth Field, of which we possess virtually only one narrative, and that not written by an eye-witness or even by an Englishman, but by an intelligent foreigner who settled in England some years after. Polydore Vergil, the first writer of a connected history of England, arrived in this country about eighteen years after the battle, and doubtless gained his information about it from those who had seen and taken part in it. The accounts given by the subsequent English chroniclers, Hall, Grafton, and Holinshed, are little more than translations, a little amplified, of the description given by Polydore. Nevertheless, their additions to the narrative, as we shall see, are not without significance.

More than four hundred years have now passed away since the battle of Bosworth was fought, and great changes are naturally to be looked for, even in an agricultural district, in so long a period of time. In point of fact, the changes that have taken place in this part of Leicestershire seem to have begun at a rather early period after the date of the battle, and to have gone on at a much greater rate than has been usual, we should suppose, in localities where as yet no new towns or suburbs have been formed, where even the distant view gives no evidence of their existence, and where rural quiet is only disturbed occasionally by a passing train. The most marked features of the scene that are due to man are of course the work of this ever-changing nineteenth century. A canal and

a railway, each, in some places, with high embankments, are serious impediments to the eye that would take in the natural aspect of the country; while wooded hills and cultivated plains and well-drained fields would, even if the railway and canal were quite removed, present a scene which neither Richard III. nor Henry VII. could possibly have recognised as the field of their encounter.

Some attempt, however, must be made to realise the physical conditions of the country as it existed four hundred years ago, almost untouched by the hand of man. The little town of Market Bosworth stands upon one of the highest hills of the district. Its church steeple is conspicuous from Ambien Hill two miles to the south, and even from further distances in that direction wherever Ambien Hill does not intercept the view. It was a commanding position, which Henry, perhaps, might have been glad to occupy if he could have reached it, but it was about two miles north of the line in which either army was advancing against the other. So the battle was not fought close to Bosworth, but a little south of it. It must, in fact, have begun in the neighbourhood of Ambien Hill; not, probably, upon the hill itself, but either on the north, south, or west side of it; for different views have been taken as to the precise locality, and the zealous local antiquary Hutton, who devoted much attention to the subject in the last century, even believed that it began upon the hill itself. The defeated followers of Richard were pursued southwards to the villages of Dadlington and Stoke Golding, close to which last (between it and the railway station) is the little eminence called Crown Hill, where the crown which fell from Richard's head in the battle was placed by Lord Stanley upon Henry's.

This crown was said to have been found cast away in a hawthorn bush, a shrub pretty abundant still in the neighbourhood. We must suppose, therefore, that here and there was to be found a little underwood on the field of battle. The land, however, for miles about, must have been generally bare, and much of it moorland. Ambien Hill was, in all likelihood, void of trees.[a] The field of battle itself was called Radmore (that is to say Red-Moor) Plain; that on which Henry encamped the night before was called the White Moors; the way by which he reached it was by Fenny Drayton and the Fenn Lanes. The whole country was uninclosed and quite in a state of nature.

[a] The name is supposed to mean "One Tree Hill." I cannot tell whether the etymology be correct, but if it be so it by no means follows that it refers to any feature which existed in the fifteenth century. Otherwise it fits my argument pretty well, that the hill was long conspicuous for having but a single tree.

Now, why did Henry, Earl of Richmond, endeavouring to oust Richard III. from his kingdom, advance at this time through a fenny country? His course from Wales had been by Shrewsbury, Lichfield, and Atherstone along the Watling Street, the old Roman road to London. But Richard he knew was coming to intercept his march, and even if he could have given him the slip it would have been dangerous, with a much inferior force, to leave an enemy in his rear. He is said to have secured a friendly guide through a wild and somewhat difficult country;[a] and he turned to the left in the direction of Bosworth. He encamped on the White Moors, a mile south of Shenton; while Richard, having marched in long array out of Leicester in the morning, is believed to have taken up his position that evening at Stapleton, three miles off. If so, it would seem that he moved early next morning through Sutton Cheney, where, according to tradition, he harangued his men at a place since called Dickon's Nook, to Ambien Hill.

Unfortunately there is some uncertainty about Dickon's Nook. The place so called now is a low-lying portion of a field at some distance to the back of the old hall. But the name has also been given to a tumulus near Sutton parsonage, much more convenient, certainly, as a place from which to utter a harangue. Hutton thought it was here, on the other side of the village, or on a spur of Ambien Hill, that the harangue was delivered. But there are traces above the low-lying field of what look not unlike earthworks; and it may even be questioned whether it was not here, rather than at Stapleton, that Richard encamped for the night. Earthworks no doubt there seem to be at Stapleton as well, though they were more distinct in the last century; and according to Hutton they were so extensive that it would have required two or three days' labour to throw them up. But this, if true, is really fatal to the theory that they were the site of Richard's encampment; for instead of days the army could have had but an hour or two to make them before night fell on the 21st. Moreover, Stapleton seems just a slight degree out of the way if Richard was advancing from Leicester to Atherstone against Henry; for the old road from Leicester by

[a] Burton, in his *Description of Leicestershire* (p. 158, 2nd ed.), says that his great-great-grandfather, John Hardwick, of Lindley, near Atherstone, a man of very short stature, tendered his services to Henry at Atherstone as a guide, and advised him in the attack, and how to choose his ground and profit by the sun and wind. No doubt some one did advise him in these matters; but as Hutton (p. 65) remarks, there is no evidence that John Hardwick was rewarded for his pains.

Peckleton and Kirkby Mallory (as I am informed by an old inhabitant) passed between Stapleton and Sutton Cheney without touching either; and if there was no road at all Sutton Cheney lay much more in the direction Richard ought to have gone to meet his foe. Moreover, if Richard spent the night at Stapleton it is difficult to understand why in the morning he did not march direct through Dadlington against his enemy at the White Moors; for Ambien Hill did not in that case lie between the two armies at all. But it is quite certain that Richard's army occupied Ambien Hill in the morning, and that Henry was not menaced with any attack from the direction of Dadlington.

If, however, we suppose that Richard encamped at Sutton Cheney, nothing could be more natural than that his army should have occupied Ambien Hill, as they did, pretty early on the morning of the 22nd, seeing that it was on their way, and from thence they could easily look down upon Henry's position at the White Moors. It is reported that Richard himself slaked his thirst that morning at a spring on the side of the hill which has since borne the name of King Richard's Well. Henry probably was slower in his movements for more reasons than one; but his line of route has not hitherto been distinctly traced. Only this piece of information we have to guide us, that in the words of Hall:

> Betweene both armies ther was a great marrysse; which th'erle of Richemond left on his right hand, for this entent that it should be on that syde a defence for his part; and in so doyng he had the sonne at his backe and in the faces of his enemies.

This information would have been more valuable if we had any positive statement as to the precise time of day at which the action began; but we can hardly doubt that it was in the early morning, or at all events some time before noon. The 22nd August in the fifteenth century would correspond with the 31st in the Gregorian calendar now in use; on which day the sun rises at about a quarter past five. No doubt men in both camps were astir by six o'clock; but we must allow some time for Richard to move, perhaps to harangue his soldiers (though the oration attributed to him is of course a mere composition of the chroniclers) and to occupy Ambien Hill, while Henry, too, had to shift his quarters, though perhaps not very far, in order to take up his new position. By seven o'clock, no doubt, all this might very well have been done; but if at that hour the sun was directly at the back of Richmond's army, the men must have been facing only a few points north of westward in a position nearly due south of Ambien Hill. Now, it is just possible that there may have been a marsh in that

quarter, though the indications of it are not very distinct; but it is quite inconceivable that Richmond's army should have marched from the White Moors into such a position and then turned round to face an enemy in the west, when the royal forces, as we know, came from the east to meet him. On the other hand if we place the marsh, as Sir James Ramsay does, among "the low-lying swampy meadows to the north of Ambien Hill," we must defer the battle till the afternoon, and perhaps rather late in the day, before we can get the sun at the back of Richmond's soldiers at all. Moreover, they would even then lose this advantage more and more the further they proceeded in their circuit; and finally when it came to the encounter they would have the sun actually in their faces, while the royal forces, to whom they were opposed, would have it at their backs. Thus the positions would be exactly the opposites of those described.

I do not quite know how Sir James Ramsay would vindicate the view that he has taken. He clearly cannot bring it into strict accordance with the statements of Hall and Polydore, and apparently he considers, as I do myself, that the battle was early in the morning, not late in the day. But it is not in the beginning of the circuit, but at the end of it, that he thinks Henry's troops, as he says, "had partly got rid of the sun, which till then must have shone in their faces." According to his map they had proceeded nearly due north from the White Moors to Shenton, then north-eastwards till they had got clear of the marsh, when they turned round somewhat towards the south and faced southwards. Now it may be fairly conceded that if the action took place say at seven o'clock in the morning the sun would then be rather less in their eyes than when they were making the circuit. But partly getting rid of the sun is one thing; having it at your back is quite another thing. Moreover, even at this hour the enemy would have had it at his back; so that the advantage would have been with him and not with them.

I must confess, however, for my own part, that what seems to have been a difficulty to Sir James Ramsay is one to me also; for I do not myself see any position in which the two armies (at least, the main bodies) could very well have met, with the sun at the back of Henry's forces and shining in the face of Richard's. The contrary could easily have been the case, and in fact must have been the case at one time during the engagement. It is evident in the nature of things that an army coming from the east in the early morning must have had this advantage over an army coming from the west, unless by some divergence from the direct route the latter could induce the former to make a circuit and attack him in a position chosen by himself. And this I believe Richmond

not only attempted to do, but very likely succeeded in doing. In no other way could Hall's words have been altogether justified.

It should be observed, however, that Hall's words about Richmond having the sun at his back and in the faces of his enemies convey just a trifle more than the words of Polydore Vergil, of whose history, here and in other places, he simply gives us a loose translation. Polydore does, indeed, say that Henry left the sun at his back, but he does not tell us that it shone in the faces of his enemies; which perhaps was no more than an obvious inference on Hall's part on the supposition that he was facing his enemy at the time in question. It is desirable, however, to go to the original source of information, and I therefore quote the corresponding passage as it stands in Polydore, and with it the sentence immediately following for a reason to be shown presently:

> Inter utrumque exercitum intercedebat palus, quam Henricus de industria ad dexteram dimisit, ut suis instar munitionis esset: simul etiam id faciendo solem a tergo reliquit. At Rex, ubi vidit hostes præteriisse paludem, suos impetum in eos facere jubet.

No doubt the first of these two sentences may be understood in the way that Sir James Ramsay understands it, viz. that it was in the operation of wheeling round the marsh in order to face the enemy that Henry left the sun at his back. But such a view is quite incompatible with any possible topography of the positions, and I cannot help thinking that it was in going along the marsh, not in wheeling round it, that we are to understand Henry had this advantage. Moreover, the second sentence, if he did wheel round the marsh at all, may perhaps suggest, by the use of the word *at* (*i.e.* but), that he lost this advantage in doing so. But most probably the words only mean that Richard waited till the enemy had got to the end of the marsh and there was no longer this obstacle between him and them to prevent the commencement of hostilities.

Now, if this be so, the marsh must have been on the west side of Ambien Hill and not upon the north. It lay, I believe, between the armies, as Polydore places it, even when Henry was encamped at the White Moors, and the distance between him and it was but a few hundred yards. In this brief march his men would have had the sun, any time in the morning till about nine o'clock, a little in their faces. But the marsh prevented further approach to the enemy in a direct line, and Henry purposely turned to the left, leaving it on the right and the sun at his back. The marsh, I believe, extended more than a quarter of a mile in length, and during his progress along it he was pretty secure from attack, so that he does not seem really to have been attacked at this time at all. But when

he came to the end of the marsh he would either have to turn and face the enemy with the disadvantage of having the sun in his eyes, or simply to make a stand and let the enemy come down the hill and attack him. I think he did the latter, and that if a detachment of the king's army came down the hill to oppose him, they would have had to make a circuit before coming to close quarters and then have the sun in their faces. But the actual commencement of the engagement, I believe, was by a discharge of arrows from the hill. So that Hall's words about the sun being in the faces of the king's men can hardly have been true at the beginning of the action, although it is true enough that the Earl of Richmond's followers had it at their backs on their way alongside the marsh.

But it would be wrong not to say a word or two about Hutton's view, who seems to have taken it for granted that the marsh was on Ambien Hill itself and not by the side of it. He actually believed that the Earl of Richmond's army was allowed to climb the hill, and that the marsh which divided the two hosts was mere spongy ground saturated with water from the outflow of King Richard's Well! "A small discharge of water," he says, "flows from the well directly down the hill through the wood into the rivulet [the Sence rivulet], but having no channel cut for its passage it penetrates through the soil and forms that morass which Henry is said to have left on his right."[a]

Strange, that this small discharge of water from a well should have created in those days an impassable barrier between two armies! But Henry and his forces must have already climbed a good part of the hill, as indeed Hutton expressly says they did:

"Richmond . . . . . slowly marched up the ascent where the wood now stands, the morass formed by King Richard's Well being on his right, and the sun, not on his back or his right hand, but between both; the king's troops looking on with their bows bent."[b]

The good antiquary saw it all quite clearly in his mind's eye. There was the marsh, actually existing in his day, formed from the overflow of the well. It was impassable, and neither Henry nor Richard had as yet got his forces round it above the well. But Richard ordered his men to wait with their bows bent till Henry had passed the marsh (would not even arrows traverse it?), which he could only do by going higher up the hill above the well. Such were the notions as to the conflict which Hutton seems to have carried away with him after a visit

[a] Hutton's *Bosworth*, 69. [b] *Ibid.* 97.

to the field of Bosworth in 1788. Poor man, his ideas were somewhat disconcerted when he revisited the spot in 1807. Nineteen years had made so great a change in the locality that he found himself quite lost; and he wrote that King Richard's Well was then "nearly obliterated," the swamp where he fell was "become firm land, and the rivulet proceeding from it lost in an under-drain."[a]

Apart from all other objections to his rather extraordinary view of the military manœuvres, Hutton, if he had read carefully all that was said by early writers on the subject, would have found that a marsh or boggy ground existing in his day could not possibly have been the marsh which divided the two armies; for the latter had been drained as early as the reign of Queen Elizabeth. So Holinshed expressly tells us in a parenthesis inserted by him in the old account of the narrative derived from Hall:

> Betweene both armies there was a great marish then (but at this present, by reason of diches cast, it is growne to be firme ground), which the earl of Richmond left on his right hand.

It is interesting to note here one little indication of the improvement that had taken place in the country under Tudor rule. A marsh which had separated two armies in 1485, and was probably of considerable breadth, had entirely disappeared about a hundred years later, when men were evidently reclaiming for cultivation much of the barren moor that lay around. But the site of this marsh concerns us at present. Where are we to place it? One condition of the problem is that it shall be firm ground now. Another is, as we have already seen, that it shall lie between the White Moors and Ambien Hill. A third, of course, is, that it shall be level ground in which water may possibly have lain at one time. These conditions do not well apply to the hollow ground indicated by Sir James Ramsay near a feeder of the Sence brook, north or north-west of Ambien Hill. But they do agree remarkably well with the character of some fields just beyond Bradfields Bridge and the lodge of Shenton Park on the way southwards from Shenton Station. The field even on the left hand of the road is lower than the adjoining canal, while that on the right hand, about 200 yards after passing the lodge, is remarkably level, and looks as if it had been once covered with water.

This field, and no doubt the other with it, before a road was made between them, could easily have been drained into the Sence Brook, a few hundred yards off, when the operation was once resolved on. Here then, I take it, was the

[a] Hutton's *Bosworth Field*. Advertisement at the beginning of the second edition, p. iv.

marsh, and Richmond's army must have marched along it northwards, through the borders of what is now Shenton Park to a point about four hundred yards south-west of Bradfield's Bridge, where it would come to an end, and they would be exposed to the enemy's attack. On their way from the White Moors they had only crossed the Sence, not a much greater obstacle,[a] probably, in those days than now, and they had the advantage of doing it unmolested. But Henry, I believe, proceeded slowly, not only from a politic desire to keep the marsh between him and his opponents as long as possible, but also for another reason which we shall see presently, and it may have been nine o'clock before the action began.

As soon, however, as he had passed the marsh, or perhaps had come to the end of it, his experienced enemy ordered the attack, and a shower of arrows poured down from Ambien Hill on Henry's van, which was led by the Earl of Oxford. The archers in Henry's rear at once replied, and though they were not so numerous as those of Richard's army they seem to have been supported by an arm of which the king's forces were destitute. Cannon balls were dug up during the last century upon the field of battle. Hutton says they were found "in Hewit's garden;" and from the plan of the battle-field engraved in his book, it would seem that Hewit's cottage, then uninhabited, occupied pretty nearly the site of a house on the brow of the hill, now used as a parsonage house by the incumbent of Shenton. The guns from which they were discharged were doubtless in the rear of Henry's army on the other side of the marsh, perhaps half a mile off, on the plain below; and though they could not have been ordnance of the heaviest kind they were certainly heavy enough to be some impediment to Henry's movements. Where he got them is a matter of speculation, on which I shall have a word to say presently.

His day's march had generally covered about twenty miles on an average, but latterly it could not have been so much as half that distance; for it is certain that he rested one night at Lichfield, and also that his army had encamped at Tamworth, just eight miles further on, that night that he lost his way in following them from Lichfield, and the next stage, Atherstone, was about eight miles further, and not quite seven from the place of his encampment on the eve of the battle. Only twenty-three miles in three days. So that we may well believe that he had encumbered his progress with an arm likely to be useful to him on the day of battle; and, further, that his foresight was justified by the event, for

[a] Both armies must have crossed it after the battle, even in the hurry of the flight and the pursuit, a quarter or half a mile further up.

the king's army could not possibly have dragged up Ambien Hill such guns as were employed against them.

This is no matter of speculation, for the cannon balls that were dug up on Ambien Hill are now in the possession of Mrs. Park Yates, of Sandiway, Northwich, Cheshire. And I have been privileged to see them. They are four in number, all of different weights. The first is of lead and weighs 14¾ pounds, the second of iron, weighing 8½ pounds, and the third of iron (with a screw), weighing 4 pounds. The fourth is of stone, much larger than any of the others, but comparatively light. The gun which discharged the heaviest of these balls must have required at least eight horses to draw it.[a] It was probably the kind of piece called a culverin, or perhaps a "sacre," the smaller guns being "falcons," or "falconets." The possession of even two or three such pieces was manifestly a great advantage to an inferior force.

It is true that in the slender accounts of this battle given by the early chroniclers there is no distinct mention of cannon; still less do we find it stated by any writer, early or late, that the guns were only on one side. But the fact that guns were used was certainly an early tradition of the battle. Thus we read in the account given of it in Drayton's *Polyolbion*:

> So through the misty smoke
> By shot and ordnance made, a thundering noise was heard.

And still earlier, in the Song of the Lady Bessy, which, though it went through

[a] The following extracts from Tartaglia's early treatise on artillery (pp. 27, 28) show the weights of some of the pieces of ordnance as compared with that of the balls used for them in Henry VIII.'s time:

"A faulconet whose pellet of leade weigheth 3 pounde waight is 5 foot and ¼ foote long, and commonly containeth 400 pounde waight of mettall, and must be drawne with two horses.

A faulcon whose pellet waigheth 6 pound waight, being 7 foote long, containeth 890 pound waight of mettall, and must be drawne with foure horses.

A saker whose pellet wayeth 12 pounde waight, being 8 foote long, containeth 1400 pound waight of mettall, and must be drawne with eight horses.

A saker whose pellet wayeth 12 pound waight, being 9 foote long, containeth 2150 pound waight of mettall, and must be drawne with ten horses.

A saker whose pellet wayeth ten pound waight, being 8 foote long, containeth 1300 pound waight of mettall, and must be drawne with sixe horses.

A culvering whose pellet of yron wayeth sixteen pounde waight, being 7 foote and ¼ foote long, containeth 1750 pound, and must bee drawne with eight or ten horses.

A culvering whose pellet wayeth 14 pounds waight, being eight foote and ½ foote long, containeth 2233 pound waight of mettall, and must bee drawne with five yoke of oxen."

It is unnecessary to quote the proportions of heavier pieces.

many variations, must have been composed originally when the story of Bosworth field was within the memory of living men, we read as follows:

> Then they blewe up bugells of brasse.
> The schottes of gunnes were so feirce
> That made many wyves to crye alas!
> And mony a childe fatherles.

And even Hall, who is almost contemporary, in describing the action, uses the expression "the terrible shot once passed, the armies joined." It is true that, in the passage immediately preceding nothing whatever is said about guns but only about arrows. Still, I think gunshot is in this place what we are meant to understand by "shot," for Hall is here translating Polydore as usual, and the clause is an insertion as if to supply an omission. Moreover, the cannon balls found on the field could not have fallen there in any other recorded battle. And further, from the position in which they were found, it is quite clear that they must have fallen in the midst of Richard's forces, so that the guns must have been in the Earl of Richmond's army. Lastly, it is perfectly certain that Richard could not have had any similar guns, because he had marched fully fifteen miles from Leicester the day before, and even if he had succeeded in carrying ordnance with him over such a distance within the time, he certainly could not have got the guns up such a steep ascent as Ambien Hill, where he had taken up his position.

But where could Henry have got the guns? For an answer to this question we may doubtless be referred to Comines, who tells us[a] that when the Earl of Richmond left France he was furnished by Charles VIII. not only with a body of men and a sum of money for the expedition but also with some pieces of artillery. And it is probable enough that some of the guns in Henry's army at Bosworth came from France. But certainly guns that could carry a ball of over fourteen pounds weight could not have been carried with him all the way through Wales, seeing that he had been marching from Milford Haven to Shrewsbury at an average rate of at least twenty miles a day. It would seem, therefore, that the larger pieces, at least, must have been procured somewhere upon the road. Where could it have been? At first sight the question seems a puzzle. But there are some points which suggest a probable answer. For it is quite clear he could only have obtained them from some fortified place, and that place could not have been many days' journey from

[a] Book V. ch. xviii.

the field. Now, there was an old castle at Tamworth, which, it is clear, since it offered no resistance to his army, must have quietly surrendered when they occupied the place on the evening of the 19th August, and the guns could have been got from thence to the White Moors, a distance of only fifteen or sixteen miles, by nightfall on the 21st. The owner of Tamworth Castle was Sir Thomas Ferrers,[a] who inherited it from his mother, Elizabeth Frevile, and who died in peaceful possession of it in the fourteenth year of Henry VII.[b] How he conducted himself at this particular juncture is not distinctly recorded. In earlier years he had been a stout Yorkist. He had been taken prisoner at Wakefield and had been made a Knight of the Bath by Edward IV. But that Richard soon after his accession began to mistrust him appears to be indicated by this, that, while his name occurs in repeated commissions of the peace as well as other commissions for Warwickshire in June, July, and August, 1483, the first three months of his reign, it is omitted in a commission of the 5th December following, and does not appear again during the remainder of the reign.[c] And we are at no loss to account for a state of suspicion between him and the usurper; for he had married a sister[d] of that Lord Hastings whom Richard just before his accession had sent to summary execution. A brother-in-law of Hastings could not have been expected, as justice of the peace, to be very eager to suppress disaffection to Richard III. But it is more remarkable that under Henry VII. his name does not appear in commissions of the peace again. For he had been in the commission for Warwickshire under Edward IV.[e] as well as at the beginning of Richard's reign. It would, therefore, seem that, though he disliked King Richard, he was too good a Yorkist to feel kindly towards Henry, and though he was guilty of no treason (otherwise he would not have died in possession of Tamworth Castle) he was not considered a safe man as justice of the peace even by Henry VII.

Now, even though he got no great thanks for doing so afterwards, it is quite conceivable, and, indeed, highly probable, that a brother-in-law of Hastings,

[a] See Dugdale's *Warwickshire*, p. 1135-6.

[b] Inquis. p. m. 14 Hen. VII. No. 10.

[c] See Calendar of Patent Rolls in Ninth Report of Deputy-Keeper of Public Records. Patent 1 Ric. III. p. 1, m. 5 *d.* (26 June), m. 8 *d.* (30 July), m. 7 *d.* (9 August), m. 10 *d.* (5 Dec.); also pt. 2 m. 2 *d.* (1 August).

[d] Dugdale's *Baronage*.

[e] His name is on the Commission for Warwickshire on the dorse of Patent Roll 22 and 23 Edw. IV., Part I., and doubtless in earlier rolls.

on the approach of Richmond's army, would have quietly given up Tamworth Castle to the king's enemy. And certain it is that Tamworth opposed no serious obstacle whatever to Henry's march. But it is not at all so clear that Henry calculated on its easy surrender beforehand; and a well-known incident in his progress becomes, I think, a good deal more intelligible on the supposition that he was uncertain on this point. The story is given by Polydore Vergil and after him by Hall. Henry, we are told, after his departure from Lichfield for Tamworth, although he was receiving daily accessions to his army, was in great anxiety about the attitude of Lord Stanley, who he knew did not dare at once to declare himself in his favour, and he was further made uncomfortable by a report, quite contrary to what his friends had assured him, that Richard's forces were in the best possible array and discipline.[a] Much occupied with these thoughts he allowed his men to go on before him to Tamworth, while he himself followed with twenty light horsemen. The distance from Lichfield to Tamworth is but eight miles, not half a day's easy march; but there was probably considerable delay before starting, for which it is not difficult to suggest a reason. Some messengers, we may almost be sure, passed between Richmond's followers and the custodian of Tamworth Castle, just to make sure of friendship or neutrality; for there was really no need of going to Tamworth at all but for the danger of leaving a hostile fortress in their rear. Richmond and his followers could otherwise have passed on by the Watling Street in the direction of London, leaving Tamworth about two miles to the north of them. Richmond's army, however, having ascertained as far as possible that they would not be opposed at Tamworth, probably marched thither in the afternoon, and some further time was no doubt lost on the way by the reception (midway, as we are told, between the two places) of the companies of Sir Walter Hungerford, Sir Thomas Bourchier, and others, deserters from king Richard. Thus it happened that the day was far spent, and Henry, with his twenty horsemen following in the rear of his army, was so late upon the road that they got benighted and mistook the way, losing all traces of the route the troops had taken. Here Hall, somewhat enlarging upon Polydore, who only speaks of the earl's unwillingness to ask questions of any one for fear of falling into a trap (*ne in insidias incideret*),

[a] "Licet magno esset animo, et ejus copiæ passim augerentur, tamen in timore non parvo erat, quod nihil certi videretur sibi polliceri posse de Thoma Stanlejo (qui, uti demonstravi, propterea quod a Ricardo periculum filio metuebat, neutro adhuc inclinabat) et de Ricardi rebus, longe aliter ac amici significarant, nuntiaretur nihil firmius esse, nihil paratius." Polydore Vergil, lib. xxv.

says "it was showed him that King Richard was at hand with a strong power and a populous army." Such a piece of intelligence could hardly have been conveyed to him at nightfall after he had lost sight of his men; but we may very well believe that even when he left Lichfield he was not without fear that the king's army might be a good deal nearer than it actually at that time was, for Richard had been strangely dilatory in leaving Nottingham to meet his antagonist.[a] And if, perchance, Sir Thomas Ferrers, or the keeper of Tamworth Castle, had any reason to believe that the king was within a day's march of him, all the assurances Henry might have received of friendliness or neutrality on his part might turn out to be delusive. In spite of all the accessions to the strength of his army, the king would certainly have superior numbers, and if Tamworth held for the king it would be a serious check. But what would be his own position with his twenty horsemen, wandering in the dark, if they should unfortunately come too near a hostile fortress? He would have been simply lost. So, when after some wandering he found himself at a little village about three miles from Tamworth, he resolved to move no further till daylight. Hutton[b] thinks he must have diverged to the left from Lichfield and that the village was Whittington, which is about three miles from Lichfield but five from Tamworth. The divergence, however, must have been after he had received Hungerford and Bourchier on the way, and may just as well have been to the right; in which case the village was probably either Weeford or Hints upon the Watling Street.

At daybreak, however, Henry discovered where he was and soon rejoined his army at Tamworth, where he would have found that the castle had offered no resistance. He explained his absence to his troops by saying that he had received some news of secret allies ready to assist him, and thus having turned the incident to his own advantage, again left his friends and went on to meet the Stanleys at Atherstone.

But all this while we have been suspending our story of the battle in order to account for the cannon balls. It is time we came back to the field. The discharge of arrows and of artillery could not have lasted long. There was a limited supply of projectiles of any kind on both sides, and when they were exhausted the two armies encountered at close quarters. Then, indeed, it may have been, though only for a short time, that Richard's men really had the sun in their eyes; for if Henry's men, on coming to the end of the marsh, did not move

[a] See *Paston Letters*, No. 884.

[b] Page 54.

further but awaited the attack of their enemies, there might have been no way of getting at them except by a circuit in which the king's forces would have had to face southwards. And in fact, as we are told, caution was needed at this moment on Oxford's part lest, if he went too far beyond the extremity of the marsh, he should be surrounded, and seeing his soldiers only too eager for the fight, he ordered that not a man should advance ten feet beyond the standard. The sudden rally and concentration of his forces made the enemy, who I suppose had been just coming down by a circuit from the hill, suspect a snare. There was accordingly a momentary pause on both sides, till the earl, perceiving that the king's forces were but half-hearted, set upon them with all his men in close battalion. But we must suspend our account of the action once more to take notice of certain forces outside the two main armies.

Henry's anxiety at the beginning of the day had been deepened by the fact that he did not feel quite sure of active assistance from the Stanleys, notwithstanding his cordial meeting with them two days before at Atherstone, and the plans they had formed together for future action. Lord Stanley, he knew, was obliged to dissemble, as he had been summoned to join King Richard, who had his son, Lord Strange, in his hands as a hostage for his loyalty. His brother, Sir William Stanley, had less object in temporising, as he had already been proclaimed a traitor. But neither of the two at once joined his forces with those of Henry. They occupied positions, I believe, on opposite sides of the field, and though it is difficult to form a decided opinion on such a matter the places indicated by Hutton seem to me very plausible. Lord Stanley had for some days before made a show of retreating before Henry's force and going on to join the king in obedience to the royal mandate. Henry had simply followed him through Lichfield and Atherstone, and very likely the day before the battle, or possibly the second day before it,[a] he had taken the same route that Henry did afterwards to the White Moors, from which a further march of little more than two miles through Dadlington would bring him to a position very near Richard's encampment at Stapleton, if that was really where the royal forces passed the night. Hutton believed that he had seen earthworks at a place called the Bradshaws, between Dadlington and Stapleton, which he took to be the site of Lord Stanley's encampment. They do not seem to be visible now; and it is quite conceivable that the real site of Stanley's encampment is marked by those earthworks at Stapleton,

[a] He and his brother Sir William had held a conference with Henry at Atherstone, which must have been on the 20th, probably early in the day.

hitherto supposed to be Richard's, for he would probably have had more time to make them. The only thing that looks rather against this supposition is the statement of Hall that Lord Stanley had "come with his band in a place indifferently between both armies;" for if the king's forces were at Sutton Cheney, Stapleton was not exactly between, still less could it be called "indifferently between," the two armies, but rather out of the way, and certainly much further from Henry's camp than from Richard's. It is clear, however, that Hall is only loosely translating the words of Polydore Vergil about Stanley, "qui jam ut medius loco pugnæ appropinquarat," which are really quite compatible with the view that he was still a little further from the field than either of the two opposing armies.

But whatever may have been the position, either of the king's camp or of Lord Stanley's, we may take it at least as probable that the latter was somewhere on the south side of the field, where he could receive messages, as he actually did on the morning of the battle, both from the king and from Richmond. He might well be rather nearer the king, for he was endeavouring to the last to maintain the appearance of loyalty; and when Richmond sent to him early in the morning to come to his assistance he sent back word again "that the earl should set his own men in good order of battle, while he would array his company and come to him in time convenient." This temporising answer filled Henry with misgiving; but Stanley was true to his promise, and when he received a similar message from King Richard to join his forces to those of the royal army he flatly refused to obey. His refusal, he well knew, endangered the life of his son, whom Richard actually ordered to be beheaded; and it was probably owing to the urgency of preparation for the fight that the order was not immediately executed. It was useless, however, for Lord Stanley to temporise any longer; so he now drew off his forces and joined Henry at once. He must have carried them back through Dadlington, or more probably through the valley between Dadlington and Ambien Hill, across the Sence Brook, round the marsh. They appeared as a much needed accession to Henry's strength just as the two armies were coming to hand strokes, and they fought in the front by the side of Oxford's company.[a]

Sir William Stanley, who had been already declared a traitor, naturally approached the field in a different quarter from his brother, and did not venture so near Richard's camp as Lord Stanley had done. He for some time surveyed the

[a] "At the which encounter Lord Stanley joined with the Earl." Hall, 418. This is a piece of original information inserted by Hall in translating Polydore.

action from a hill, probably, as Nichols suggests, that called Hanging Hill, near the hamlet of Near (or Nether) Coton.[a] The line taken by his brother no doubt put an end to his own hesitation. But matters had advanced a step further before he joined, and to appreciate the result we should note first the conduct of another actor in the scene, the Earl of Northumberland, who, by all accounts, remained an idle spectator of the conflict. Polydore Vergil, Hall, and the Continuator of the Croyland Chronicle all agree as to this. According to the last-mentioned writer the earl was posted in a part of the field where he found no adversary to contend with;[b] but it seems as if he might have sought the enemy if he had chosen, and the fact that he made his peace with the conqueror after the battle was over and was at once taken into favour shows clearly that he had never any mind to give Richard real assistance. Now where was he posted? Drayton, who knew the ground well, perhaps knew the very spot by tradition; or, if he did not, he at least had heard one thing about it which should help us to fix it. In his account of the battle, speaking of the king, he says:

> He doth but vainly look
> For succours from the great Northumberland this while
> That from the battle scarce three quarters of a mile
> Stood with his power of horse, nor once was seen to stir.

The Earl of Northumberland, if we may trust Drayton, occupied a position about three-quarters of a mile from the scene of conflict. In what direction? Not, of course, in that of Sir William Stanley on the north, or rather west of north, and certainly not on the west, which was the line of Henry's own march. Neither could it have been in the south, if we are right about Lord Stanley's movements; nor yet in the east, the quarter from which Richard himself had come. But it might have been on the northern side of the field to the east of Sir William Stanley's position, somewhere on the road from Sutton Cheney to Bosworth. And here, in point of fact, just about three-quarters of a mile from the foot of Ambien Hill, where the battle raged, a camp is supposed to have existed, which Hutton considers to have been the Duke of Norfolk's. Here, moreover, some weapons were found in the year 1748, which were believed to be such as might have been in use in those days. The spot was just exactly such as might have

[a] See Hutton's *Bosworth Field*, second ed. p. 245.

[b] "In eo vero loco ubi comes Northumbriæ cum satis decenti ingentique militia stabat, nihil adversi neque datis neque susceptis belli ictibus cernebatur." *Cont. Croyl.* 574.

been occupied by a false ally of Richard; for it was little more than half a mile from that in which I believe Richard himself encamped. But why should weapons have been left behind there? It was certainly not a position from which any troops were compelled to fly, and if they were not merely dropped by negligence they were wilfully thrown away by men who did not mean to fight.

A curious expression occurs in the Song of the Lady Bessy, put in the mouth of Lord Stanley when he is represented as planning with Richmond the disposition of the troops before the battle:

> I myself will hove on the hill, I say;
> The fair battle I will see.

Apparently Northumberland "hoved" on another hill; and Fabyan, without specifically naming this northern earl and his followers, uses precisely the same expression in telling us that some stood aloof from the conflict. He says that the battle was a sharp one:

> and sharper shulde have been if the Kynges partye had been fast to him; but many toward the field refused him and yode unto that other partie, and some stode hovynge a ferre of, tyll they sawe to whiche partye the victory fyll.

Before Sir William Stanley joined the battle, Richard saw clearly enough that in spite of his superior numbers he was surrounded by false friends and open enemies, and he determined at once to bring matters to a crisis. Being then on Ambien Hill, perhaps not far from the well at which he is said to have drunk that morning, he was informed by scouts that Richmond was on the other side at no great distance. Putting spurs to his horse he dashed over to the place, and knowing his antagonist by certain indications which had been described to him, he flung himself first upon the little band of personal attendants about him. He beat down Henry's standard, killed William Brandon,[a] the standard bearer, and

[a] Sir William Brandon, as he is called by Hall and the subsequent chroniclers; which led me to suppose when I wrote my *History of Richard III.* that he could not have been killed, as stated, but only knocked down in the battle; for I found Sir William Brandon alive months and even years after. Sir James Ramsay in his *Lancaster and York* (ii. 550, note) has sought to correct my error, which I had already discovered some time before, showing that there were two Sir William Brandons, father and son; but he has made at least one mistake of his own, saying that the survivor was the son, for it was the son whom Richard killed, and I do not know that this son was a knight, as the designation given him by Hall would imply. He was the father of Charles Brandon, Duke of Suffolk, the favourite of Henry VIII., and had been abroad with Richmond in Britanny, while the elder was in sanctuary in England taking refuge from Richard's tyranny. *Rolls of Parliament*, vi. 291-2.

threw to the ground Sir John Cheney, a man of great physical power. Having thus cleared the way, he actually engaged Henry himself in single combat, and would probably have prevailed, though Henry defended himself better than his friends expected, but that Sir William Stanley and his men opportunely came up at that very moment and relieved him from danger.

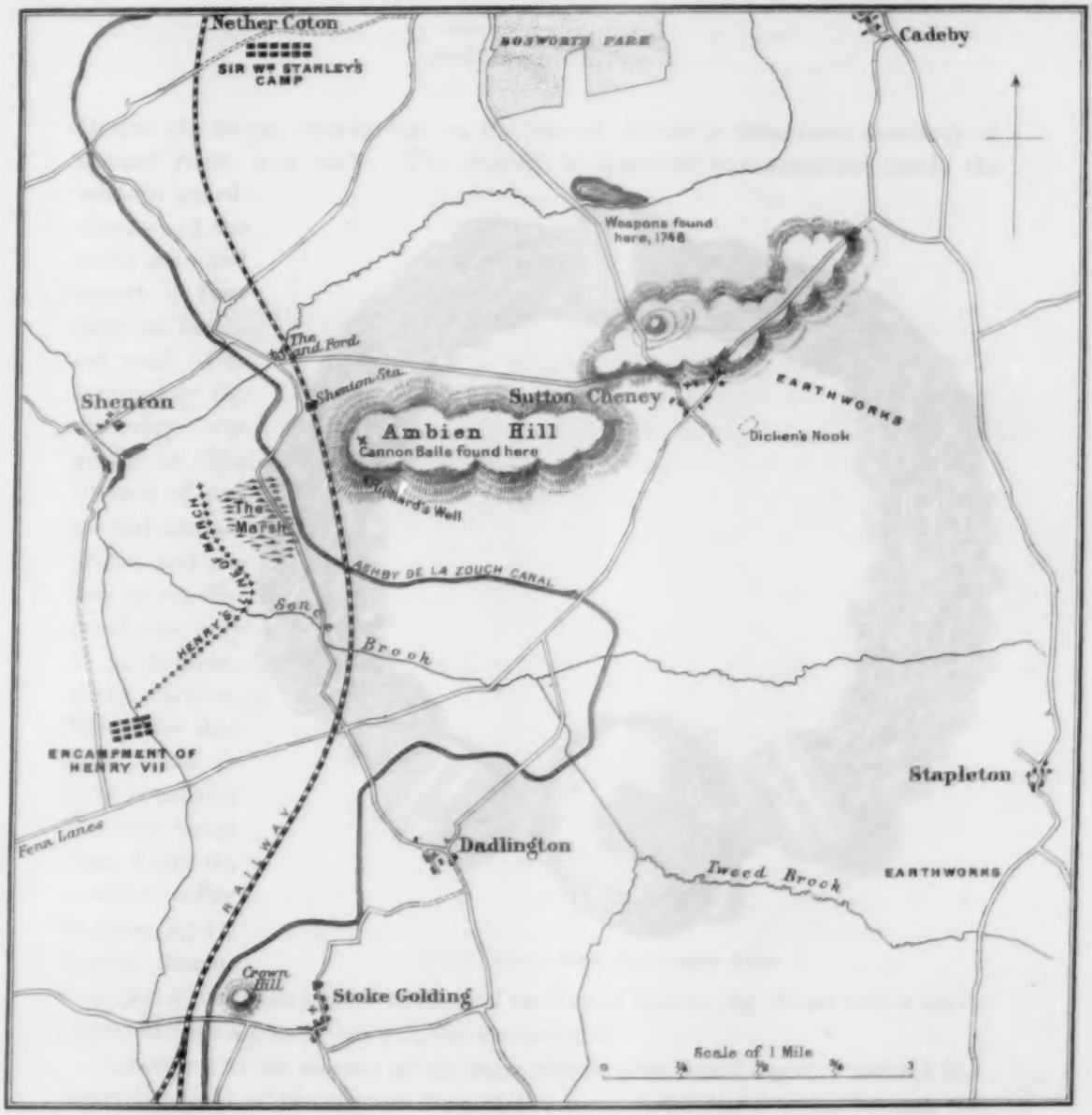
It was Richard who was in danger now, for of course he was soon surrounded. He was urged to fly but refused. He might, perhaps, have drawn back to Sutton Cheney. But he fell in the midst of his enemies, his horse, according to tradition, having stuck in the mire. And this seems highly probable, because the intelligence of the event received immediately afterwards at York stated that he was slain "at a place called Sandeford within the shire of Leicester."[a] There never seems to have been any hamlet thereabouts known by such a name; but the name itself indicates the crossing of a stream, and the exact locality can be pointed out almost with certainty at the present day, although the ford no longer exists. According to a correspondent of *Notes and Queries* (2nd Ser. vi. 391), the old road from Leicester to Atherstone crossed a tributary of the Sence between Sutton Cheney and Shenton, and the ford existed within the memory of men still living. A small part of this old road was identical in its course with a comparatively modern highway which connects the two places last named, but the stream which once flooded it now flows through a vaulted tunnel underneath. Part of this highway, however, which crossed the ford has been known even to our time as "the Sand Road," and it seems obvious that the ford was "the Sand Ford." The name as applied to the road was owing to an immemorial right of the inhabitants of Shenton, before the lordship of Sutton was enclosed in 1794, to take sand free of expense from the north side of Ambien Hill; in doing which they continually passed and repassed the ford.

Now, if we have rightly identified the place where King Richard fell, it must have been almost half a mile north of the termination of that marsh along which Henry's army had proceeded. And, as we are told that he fell surrounded by his enemies, we must presume that Richmond's left, at all events, had by this time pushed so far beyond the marsh, having driven back the first detachments of the royal army who came down upon them by a circuit from the hill. It was then, if ever, that the sun shone, for a short time, in the faces of the royal forces, while Richmond had it at his back. But if so, the attacking party would naturally have been driven northwards, or eastwards towards Sutton Cheney.

[a] Drake's *Eboracum*, 122.

And so, very likely, they may have been; but Sir William Stanley and his men coming down through the fields from Hanging Hill would have driven them southwards again, and being joined in the pursuit, after the king was slain, by the whole body of Richmond's forces, must have chased them, perhaps over the lower slopes on the western side of Ambien Hill, or, it may be, eastward round the hill, and over the Sence Brook as far as Dadlington and Stoke Golding. The work would not have been so easy, but that after Richard's death many of his unwilling and half-hearted followers threw away their arms and submitted. Only those who had little reason to expect mercy fled for their lives. The whole conflict had lasted little more than two hours. But in those two hours the reign of feudal disorder had come to an end and a foundation had been laid for firm and consistent government.

I do not like to conclude this paper without expressing my obligations to Mr. Thomas Harrold, of Hinckley, for kind assistance repeatedly given in local inquiries and in personal inspection of the ground along with myself.



PLAN OF THE BATTLE OF BOSWORTH



VIII.—*On two fibulæ of Celtic fabric from Æsica.*

By Arthur John Evans, *Esq., M.A., F.S.A.*

Read January 7th, 1895.

During the recent excavations on the site of Æsica[a] a remarkable discovery of ancient relics was made. The deposit in question was contained inside the western guard-chamber of the south gate and about 3 feet from its northern wall. Unfortunately the discovery was made in the absence of any trained archaeologist and the data at our disposal are only of an approximate nature. The relics that have come to light consist of two large fibulæ (figs. 4 and 9), a silver collar or chain (fig. 1), a gold Roman ring (fig. 2) set with a moss agate, and another of bronze (fig. 3) set with a nicolo engraved with a gnostic subject, the familiar IAO.



Fig. 1. Silver collar or chain found at Æsica. ½

According to the account given, these objects were found together about 3 feet above the level of the original floor of the room and 3 feet 6 inches beneath the surface of the earth with which the guard-chamber was mostly choked. The dis-

[a] Report for 1894 of Northumberland Excavation Committee, *Archæologia Æliana*, vol. xvii. pp. xxii.-xxxii. *See* also Mr. Haverfield's notes, *post*.

covery of the relics was due to an excavation below them, and they were brought to light by some earth falling from the roof of the excavated hollow. It is obvious, therefore, that the find has an interesting bearing on the date of the building in which it was contained, and the period of its destruction. No notice of the occurrence of bones has been preserved, but it is evident that the deposit, whether sepulchral or not, must have been made at a time when the tower was ruined and already partly filled with earth. The rubbish inside the turret was mainly old lime from its walls, and, according to the foreman, there was no trace of a "pocket," such as would have been formed by the digging of a grave.

Of the relics found the finger rings belong to well-known Roman types. The silver collar, however, with its double links and crossbars, has a more Celtic aspect, though probably derived from a classical model, since chain necklets with somewhat similar central medallions have been found in late Greek deposits at Alexandria. Scale armour, such as has been found elsewhere along the Wall, was also found in the closest proximity to the guard-chamber.[a] The special home of this kind of scale armour in antiquity seems to have been the Pontic regions, and it is frequent in the Græco-Scythian tombs of Pantikapæon. The Sarmatians, as is well known, made scale armour of horn, and it is probable that this kind of armour was introduced into the Roman army from the Lower Danube.

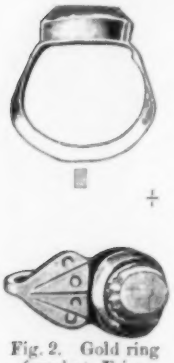


Fig. 2. Gold ring found at Æsica



Fig. 3. Bronze ring with gnostic gem found at Æsica.

The fibulæ take us on to more purely Celtic ground. Both from their size and ornament they must be reckoned among the most remarkable objects of the kind that have ever been discovered. It may indeed be said that among the fibulæ found in Roman Britain there is nothing *simile aut secundum*. The great size of these brooches is alone sufficient to put them in a category by themselves, and in this respect, as in some others, the parallels that they suggest carry us somewhat far afield. The fibula (fig. 4), especially, both by its size and calibre, and to a certain extent also in its shape, carries us to another extremity of the Empire and recalls the massive clasps worn by the Pannonian women in the first centuries after our era.[b] The gilt brooch (fig. 9) on the other hand, in its broad decorative plates, shows a strong affinity to those later types of fibulæ

[a] See below, p. 20.

[b] See below, p. 15.

which the Saxon borrowed from the Goth and the Sarmatian, and which made their first appearance in Britain in the fifth or sixth centuries.

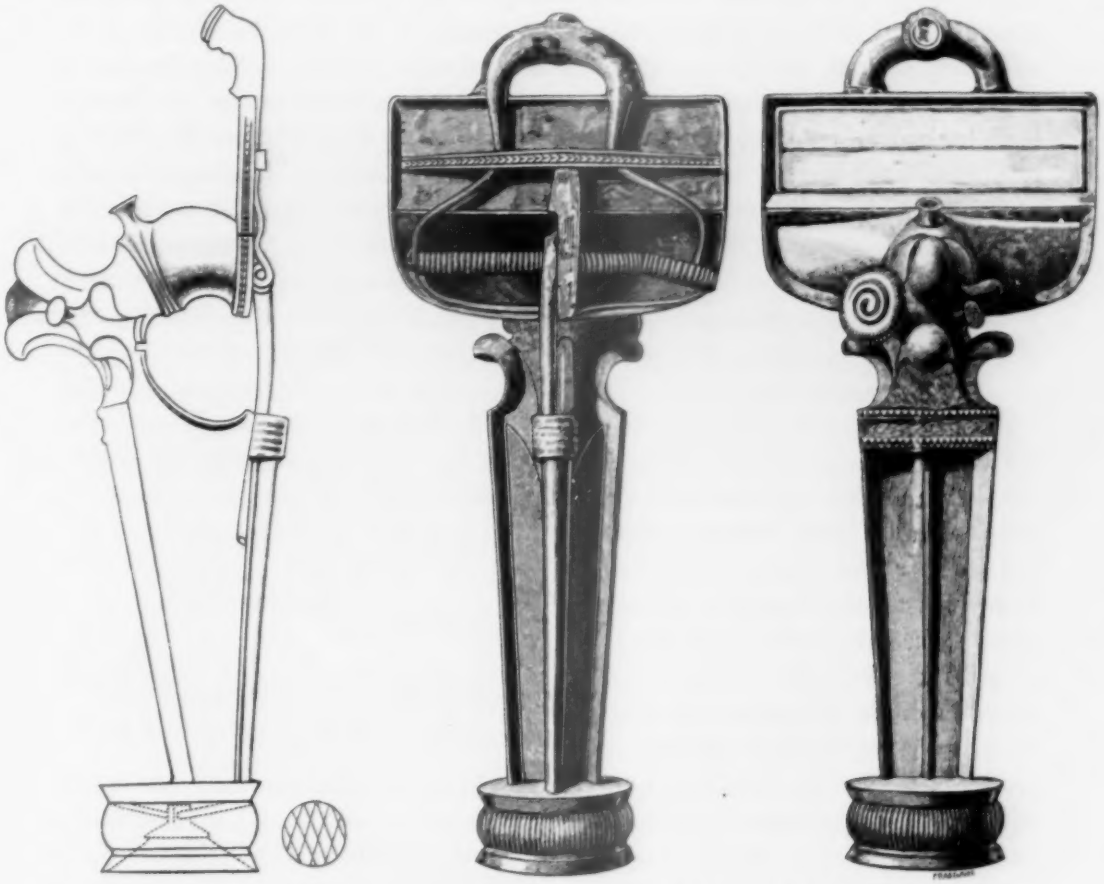


Fig. 4. Side, back, and front views of a brooch found at Æsica. ⅔ linear.

How far an East European influence may be traceable in these remarkable metallurgic works is an interesting question. But let it be said at once that in their manufacture both of the Æsica fibulæ are true productions of our insular art.

As the question must be treated in some detail, it will be convenient to begin with the larger fibula represented in fig. 4. The fibula here represented is a magnified variety of a well-established British type which in the west and north of provincial Britain survived the Roman Conquest. Its origins are purely Celtic, and are to be sought in the central and south-eastern European area, from which,

as I have shown in connexion with the Aylesford discoveries, such a considerable element of Belgic culture was originally derived. It had a wide western distribution as early as the date of the Roman Conquest of Gaul, but the more primitive examples, and those which throw the clearest light on its original evolution, seem, as already said, to belong to a more easterly region. The type is derived from a fibula which, like others of its class, is really a converted pin, the end of which is bent back over its bow, the knob itself being bound to the top of the bow by a metal collar. The stages in this process are well illustrated by two types from the Celtic settlements in Bohemia. In the first example (fig. 5) from the Riesenquelle, near Dux, the retroflected end and the collar are still separate entities. In the other fibula (fig. 6), from the Boian Oppidum of Stradonić, the union of the pin-bow and collar has become more organic, though traces of the old separation are still seen in the line of division on the back. The recurved projection at the foot end of the collar was no doubt originally devised to keep the collar from slipping back. In some cases, as on the Pannonian example (fig. 8), there are two of these hook-like projections curving outwards, one on each side of the collar, and it is to the multiplication and development of these, coupled with the survival of the collar itself, that the bow of this class of fibula owes its typical characteristics. On the Æsica example these elements attain their greatest development.



Fig. 5. Bronze brooch with retroflected foot caught by a free collar. From Riesenquelle, Dux, Bohemia. ½

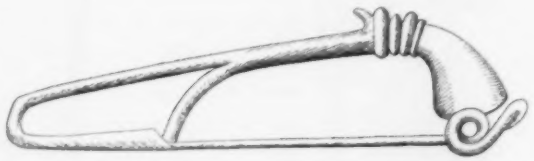


Fig. 6. Bronze brooch with collar and bow in one piece. (The pin and spring restored.) From Stradonić, Bohemia. ½

The type shown in figs. 5 and 6 reappears, in the wake, no doubt, of Celtic influences, in a completely unified form both in Italy[a] and Gaul, though its antecedent stages must be sought outside the limits of pure Italic or Roman culture. In Gaul this type is found in the remains of Bibracte or Mont Beuvray, the predecessor of the Roman Augustodunum (Autun), and of Alesia[b] (Alise St. Reine),

[a] One probably found in the Perugia district is engraved in Montelius, *Spännen från Bronsåldern*, p. 186, fig. 188. But this earlier type is certainly rare in Italy, though a later variety with the foot no longer open but forming a single plate is occasionally found in N. Italy. I have seen examples from Liguria.

[b] *See* Tischler, *Gurina*, 26.

among the relics of the final struggle between Cæsar and Vercingetorix. This fact sufficiently dates that stage in the history of this interesting type when it had already become unified. In Britain it already appears as an imported object in one of the Aylesford graves, which from other associated relics can be shown to belong to the first half of the first century B.C.[a]

In Gaul Roman influence does not seem to have favoured the further evolution of this particular class of fibula; but in Britain, where the indigenous elements were less fully assimilated by the conqueror, it was to play a more important part. It became, in fact, the progenitor of whole series of closely allied forms which characterise those parts of provincial Britain where the Celtic element still retained much of its national characteristics. Certain developments take place in accordance with prevailing fashions: the originally open foot becomes finally closed and forms a single plate; the loop of the spiral spring is caught in a hook on the "head" of the fibula, and a specially British development at the same time makes itself perceptible in the formation of a smaller loop at the end for the convenience of attaching a small chain (fig. 7). These fibulæ were, in fact, worn by the native women in pairs connected by a chain hanging down between them. The same fashion recurs in other parts of the old Celtic area, notably in Pannonia, but the formation of a special loop or eye to catch the terminal rings of the chain is, I believe, a peculiarly British characteristic, and is not confined to this particular class of fibulæ. In both the Æsica brooches, though of very different types, this feature is well illustrated.

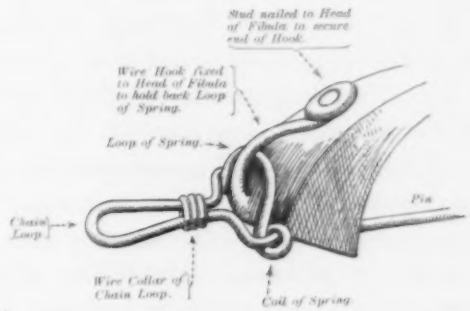


Fig. 7. Sketch shewing development of British *fibulæ*. From a specimen from Kingsholm, Gloucestershire, in the British Museum.

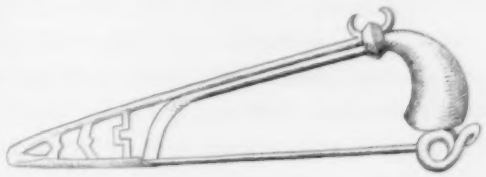


Fig. 8. Brooch of early Pannonian form.

More or less Romanized forms of this originally British, or perhaps we should say Belgic, type are common on various sites in the south-eastern part of our island. But the true British examples are to be distinguished from these by

[a] *See* A. J. Evans, "On a Late-Celtic Urn-Field at Aylesford, Kent, etc." *Archaeologia*, lii. 382, 383.

their more elaborate decoration, in which the Celtic art of enamelling and the triquetral design are special features, as well as by the terminal loop with which they are provided in order to suspend the two ends of the chain. These true British types, which continued after the Roman Conquest, occur only sporadically in the south-east. They are the special product of the west and north, and form one of a series of interesting indications that the Celtic element continued to hold its own in those parts of the Roman province. Various local fabrics of this class of fibulæ can be made out. There are western varieties, such as those found at Kingsholm, near Gloucester, at Caerleon, and Pont-y-Saison, in Monmouthshire,[a] of which good specimens exist in the national and other collections. Some plainer forms are well represented among the fibulæ found at the British village excavated by General Pitt-Rivers at Rotherley, Dorset.[b] But it is the northern types with which we are at present principally concerned. Many examples of a somewhat early variety of this fibula were found with other late-Celtic relics under the foundations of an old bridge over the Troutbeck at Kirkby Thore, in Westmorland. The deposit contained quantities of broken fibulæ and "enamelled buttons," as well as Roman coins, and appears to have been rightly set down by Captain W. H. Smyth (who described it in *Archaeologia*)[c] as an "artizan's workshop." The coins were mostly of emperors ranging from Vespasian to Severus Alexander, including several "Britannias" of Hadrian and Antoninus Pius. It is probable that the representative fibula engraved in *Archaeologia*, which is of an earlier class than the prevalent "Brough type," dates from a time more nearly approaching the age of Vespasian than that of Severus Alexander, and may belong to the end of the first century of our era.

But the most abundantly represented type of these northern fibulæ is that of which a remarkable number of specimens have been found on the neighbouring site of Brough. They are evidently of the same, undoubtedly local, fabric, and their heads are adorned with Celtic scroll-work and enamel. The popularity of this Brough fabric is attested by the fact that specimens of this local class are occasionally found in south-eastern England, and one example[d] was even procured as far afield as Venice. From the close association in which some of the Brough fibulæ of this type seem to have been found, with leaden seals bearing the stamp of Severus, it is probable that they date from the end of the second and the

[a] In the British Museum.

[b] *Excavations in Cranbourne Chase*, vol. ii. pl. xcvii. 9-12.

[c] Vol. xxxi. (1845) pp. 279 *et seqq.* "On some Roman Vestigia recently found at Kirkby Thore, in Westmoreland."

[d] In Sir John Evans's Collection.

beginning of the third century after our era. A fine pair of silver and enamelled fibulæ, closely approaching the Brough type, but perhaps representing some other local fabric, found at Chorley, in Lancashire, are now in the British Museum.

But besides these Cumbrian fabrics, there seem to have been other centres of manufacture for this class of fibula in northern Britain. In Dr. Bruce's *Roman Wall* is engraved a remarkable fibula of this class, ornamented with triquetral scroll-work, both on the head and catch-plate, which was found on the site of Habitancium. It is of somewhat larger size than the usual Brough fibulæ, and shows a different ornamentation. Closely allied to it is a fibula now in the British Museum, which seems to have been found at Backworth, a little to the north of Newcastle, which in many respects shows a great assimilation to our Æsica specimen. In this case, as in that of the Habitancium brooch, both the catch-plate and the head of the fibula are ornamented with Celtic scroll-work, the decoration of the plate being on both examples strikingly similar. All that is known regarding the circumstances of its discovery is that it was found with a collection of objects, some of them bearing reference to the cult of the *Deæ Matres*, and 280 denarii and bronze coins of Antoninus Pius.[a] One denarius of Antoninus Pius belongs to his second consulship, A.D. 139. This takes us approximately to the middle of the second century for the date of the fibula.

One peculiarity of this type, to which the name of "Northumbrian" may be provisionally applied, is the termination of the foot in a flat cylindrical case, which on the Æsica example almost takes the proportions of a small box. In a smaller form it reappears on a fibula of the same class found at Corby Castle, in Northumberland.[b]

In another respect the Northumbrian type shows a close coincidence of form with the Æsica fibula. The head of the bow namely widens out and is attached to a broad rectangular plate, from which issues the loop to which the chain-ring was to be attached. This rectangular plate is evolved, as can be seen by intermediate examples, from the wire coils which originally confined the neck of the terminal loop. In the Kirkby Thore fibula we already see the coils coalesced into a flattened ring, which in the later type becomes the elongated plate. The

[a] *Archæological Journal*, viii. (1851) 35 *et seqq.* The fibula is engraved on p. 39. For the inscription on the ring referring to the Deæ Matres, see C. I. L. vii. 1299, and Haverfield, *Romano-British Inscriptions*, iii. 158 (in *Archæological Journal*, l. 303), where the objects are said to have been probably found at Backworth.

[b] Less conspicuous examples of the same class are to be seen in the British Museum, from London (Roach Smith) and Farley Heath, Surrey. But in the south of England this type is exceptional and exotic.

main points in which the Æsica specimen differs from that found at Backworth are the absence of the scroll-work on the head of the bow and the catch-plate, and the presence of two knobs, one on the posterior part of the bow, the other, now broken off, on the loop. Of these two knobs, that on the spring of the bow must be regarded as due to a cross influence, or, as German mythologists would say, a "contamination" from another form of British fibula, in which the hook on the back of the bow (which in this case catches the cross-wire or loop of the spiral spring), is secured by an ornamental stud. In the Æsica fibula this cross-wire of the spring is caught by a hook below the plate, as will be seen by fig. 4, so that no exterior hook was needed; but the prevalence of this kind of fastening with the hook and stud, of which an example from Kingsholm, near Gloucester, is given in fig. 7, has left its influence on the Æsica fibula in a purely ornamental excrescence. The stud which originally decorated the chain-loop behind was, no doubt, due to the same suggestion.

The stud on the back of the Æsica fibula is one of its most interesting features. It is coated at the top with a silver plate ornamented with an interlaced scroll of a purely Celtic character. The style of the bosses on the bow is also distinctively late-Celtic, and it would indeed be difficult to find a single feature which is not, on British soil at least, of purely Celtic derivation. The prototype was, as we have seen, already introduced into our island, probably by Belgic influence, before the Roman Conquest. The later accretion of the loop to catch the end of the chain is purely British, and quite opposed to Roman fashion. The great size is equally un-Roman, and only to be paralleled by the fibulæ of some provincials on the Middle Danube, who also seem to have retained to a very large degree their Celtic nationality.

It appears, then, that the fibula (fig. 4) from the guard-chamber at Æsica is of pure British fabric and the outcome of a purely British tradition. On the other hand, its nearest prototype is a Northumbrian form, the fabric of which, from its occurrence at Habitancium, may perhaps be located north of the Wall. The type with which it stands in the closest relation seems, from the coins found with it, to date from the middle of the second century after our era, and, considering that the Æsica fibula seems to represent in its aggrandised proportions and the greater relief of its bow-ornament a somewhat later development of the "Northumbrian" type, we may with great probability attribute it to the end of the second century after Christ.

The other Æsica fibula (fig. 9) is, from an artistic point of view, very superior to the last. Of its kind, it is probably the most fantastically beautiful creation

that has come down to us from antiquity. Here, too, its history is to a great extent written on its face.

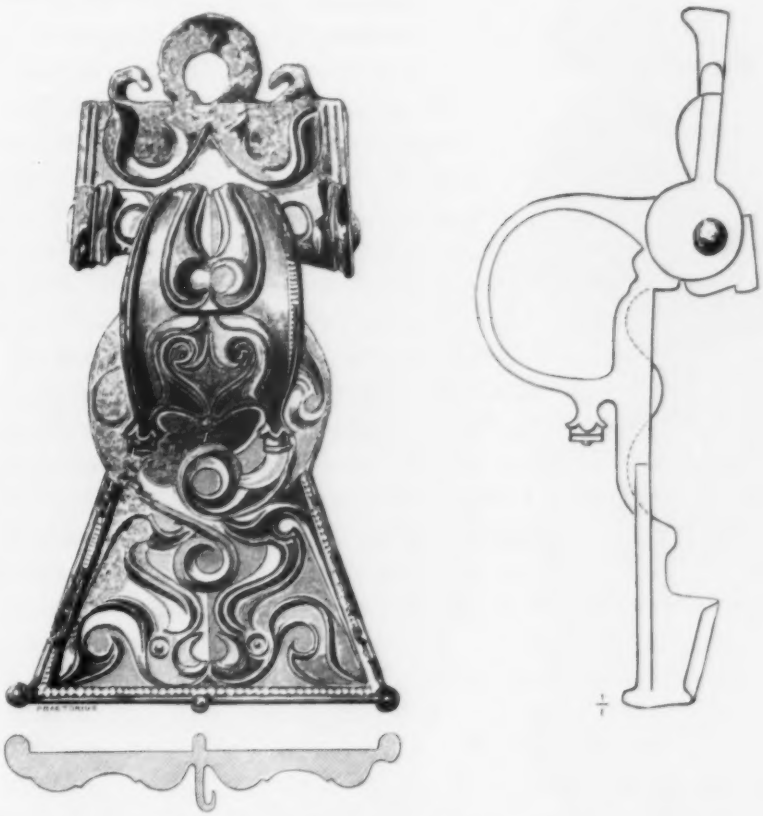


Fig. 9. Gilt bronze brooch found at Æsica.

The prototype from which, in its main lines, it is immediately derived is a form of fibula very widely diffused in France and the Rhinelands, and which, indeed, may be described as a typically Gallo-Roman production. In the case of this fibula the bow is made to go through a more or less circular plate,[a] often ornamented in relief with a kind of open-work rosette. Beyond this disk the foot of the fibula spreads out in a somewhat fan-shaped form. A fine Gallo-Roman example[b] is engraved in fig 10.

[a] In varieties of this fibula, however, its form is lozenge-shaped.

[b] From Sir John Evans's collection. Numerous examples from the Gallo-Roman station of Châtelet, between St. Dizier and Joinville, are engraved in Grivaud de Vincennes, *Arts et Métiers des Anciens*, pl. 40.

This kind of fibula never seems to have been common in Britain, though specimens from time to time occur, and occasionally in sites like Hod Hill and Braughing, where the British element was strong. The fibula itself must be regarded as a later adaptation of a very early type which characterises the Early Iron Age deposits of the Eastern Alps and the lands about the head of the Adriatic, and which goes back, in fact, to the middle of the fifth century, B.C.,[a] and the Late Hallstatt Period of that European region. In this early type the retroflected foot of the fibula is provided with a circular disk, either flat or convex, often attached to the turned-over end of the fibula by a central stud. In some cases the arch of the fibula consists of another similar shield, so that, seen in front, the brooch presents the appearance of two contiguous disks. The fibula with the single disk on the foot is that with which we are more immediately concerned, and this type was very generally used among the Celtic tribes in the fourth and third centuries before our era. For comparison, two examples of this type are given. One is from Grave 33 of the cemetery of Idria di Bača in Gorizia (fig. 11), and probably



Fig. 10. Gallo-Roman brooch in the collection of Sir John Evans. ½

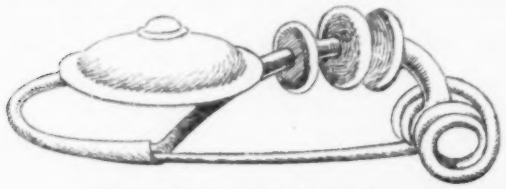


Fig. 11. Brooch from Idria di Bača. ½

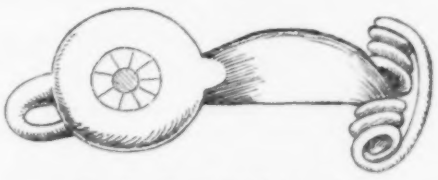


Fig. 12. Brooch from Selzen. ½

dates from the end of the fifth century, B.C. The other (fig. 12), from Selzen

[a] Thus in a homogeneous deposit found at Hochbühel near Meran, fibulæ of this type are associated with others of the Certosa type, the date of which is fixed by the associated Greek pottery in the Bologna graves to the early part of the fifth century, B.C. Double disked brooches such as those described below were found in a bucket at Nonsberg near Dercolo, in a broken condition, associated with new Certosa fibulæ, a proof in this case of anteriority of date. The evidence of the graves of Idria di Bača, near Gorizia, is also conclusive as to the very early date of the brooches with a single disk on the retroflected end. In Grave 14 one such occurred with a bronze vessel, very similar to that from the cremation grave (No. 500) of the great Hallstatt cemetery. The early date of the retroflected fibulæ in south-east Europe has not been sufficiently taken count of by archæologists.

in Bavaria, is of Gallic work, perhaps of the third century, B.C., and displays an enamelled rosette.

It appears that in the case of some later fibulæ of this kind the simple change was made of passing the bow of the fibula through the centre of the disk in place of the rivet; this change being accompanied by a general flattening and expansion of the foot.

The type which thus originated seems to have been diffused in Gaul at a comparatively early date, and an example is known from the site of Bibracte[a] the remains of which date mostly from the pre-Roman period.

In Cisalpine Gaul it makes its appearance about the same time. Three examples of this fibula were found in the cemeteries of Ornavasso,[b] near the Lago Maggiore, the coins found in which do not reach down beyond the reign of Domitian. Others have been found in the tombs of Martigny in the Canton Valais belonging to the early Empire.[c] Another more or less fixed chronological standpoint is, moreover, supplied by a monument of the Blussus family at Mentz,[d] upon which a fibula of this type appears to be used for fastening the garment of his wife at the shoulder. This monument is referred to by Dr. Zangemeister[e] on epigraphic grounds to the reign of Trajan, and it therefore appears that this fibula was in vogue at the end of the first century of our era. The occasional occurrence of this type on such predominantly British sites as Hod Hill and Braughing, points also to a comparatively early date.

If we now examine the Æsica brooch it will be seen that, though its main outlines are evidently due to this Gallo-Roman type, the relationship which it bears to its model is of the most untrammelled kind. The broad bow of the fibula, instead of burying its whole breadth on the disk below, rests on it by a central support arching away from this on either side to two elegantly moulded knobs. The roll at the head of the fibula which encases the coil of the spring fits on to a broad flat plate analogous to that of the fibula found with it, and from this juts a small perforated projection of ogival form which represents the peculiarly

[a] S. Reinach, Art. *Fibula* in *Darenberg et Saglio. Dict. des Antiquités.* A specimen from this site is in the Museum of St. Germain.

[b] Bianchetti, *I Sepolcreti di Ornavasso* (Turin, 1895), p. 32, pl. x. 18.

[c] H. Lugon, *Anzeiger für Schweizerischer Altertümskunde*, 1892, No. 2, cited by Bianchetti, l. s.

[d] Lindenschmit, *Die Alterthümer* etc., band iii. heft ix. taf. 3. Lindenschmit commits himself to the statement that this fibula is common in Rhenish graves of the third century or even later; but this is more than doubtful.

[e] In a letter to Mr. Haverfield, who kindly asked his opinion for me.

British loop for suspending the end of the chain. Finally the whole surface of the fibula exhibits, in place of the formal chevrons and parallel lines of the provincial Roman models, a succession of exquisite designs of Celtic scroll-work in relief. The whole is splendidly gilt and in this respect resembles the Teutonic fibulæ of a somewhat later date. The gilding of the Roman fibula is generally of the most cheap and perishable nature.

It will be seen that here again, as in the former example, we have to deal with a purely Celtic production, based, indeed, on a Gallo-Roman model, but a model the origins of which had been Celtic before they were in any sense Roman. The independent relation in which it stands to its prototype suggests the former existence of intermediate links of which the evidence is now wanting. Assuming, as we have some right to do, that the chronological centre-point of the provincial Roman type in question is about 100 A.D., there can be no difficulty in attributing the present fibula (which represents a further development of the Roman form), like the other Æsica example, to the end of the second century of our era.

The other fibula, as already pointed out, when carefully analysed is found to be Celtic in all its elements. In the present case, however, this Celtic character reaches a measure of freedom and originality which places it almost or quite alone among relics found in Imperial Britain during the centuries of direct Roman dominion. It is true that throughout the days of the Roman occupation a true British tradition continued to assert itself in the north and west. The fabrics of Brough, including more than one class of purely Celtic fibulæ, would be alone sufficient to prove the truth of this proposition. But for such an expansive display of Celtic decoration as is seen on this Æsica brooch we shall seek in vain in Roman Britain, at any rate during the later centuries of Roman imperial rule. The Celtic ornament which survived in provincial Britain proper, though genuine, is decidedly subdued, but here we have a specimen of truly flamboyant decoration.

In a word, the art that we here see before us, judging by all analogy, could at the time it was wrought, in the last half of the second century of our era, only have been produced north of the Wall of Antonine as well as of Hadrian.

This conclusion is altogether borne out by the character and details of the decorative designs. The bold relief, the form of the scroll-work, and some of its minutest characteristics, fit on, in fact, to the style of decoration found during this very period on a whole class of Caledonian ornaments. The best represented of these is a series of bronze armlets with embossed ornaments in high relief,

which at each extremity of the open ring enclose an enamelled roundel.[a] These ornaments, of which a specimen from Stanhope, Peeblesshire, is given in fig. 13,[b] are mostly found to the north of the Firth of Forth, and there can be little doubt that they represent a pure Caledonian fabric. The bold style of their relief approaches that of the late-Celtic ornaments of præ-Roman Britain, such as we see them in the deposit of Polden Hill, near Bridgewater,[c] and the somewhat later find of Stanwick, in Yorkshire,[d] which apparently belongs to the last period of Brigantian independence. On the other hand, the character of some of the Caledonian decorative bosses shows affinities with continental types of late-Celtic art, such as, for example, a bronze armlet in the National Museum at Munich,[e] and its beginnings therefore go back to a time before the Roman wedge had been driven home across the Celtic world.



Fig. 13. Front and back views of a bronze armlet found at Stanhope, Peeblesshire. ½ linear.

The Stanwick find affords probably the nearest parallel from the soil of what was afterwards to be Roman Britain, and it is noteworthy that a kind of bifid *vesica piscis*, which on some of the Stanwick bronzes is found in pairs standing for animals' eyes, occurs on the Caledonian bronzes in a purely decorative capacity. What appears to be an outgrowth of the same is the central point of the design on the foot-plate of the Æsica fibulæ.

[a] See especially J. Alexander Smith, "Notes on a Bronze Late-Celtic Armlet," in the *Proceedings of the Society of Antiquaries of Scotland*, xv. 316 *seqq.* Examples of these are cited from Stanhope, Peeblesshire (*op. cit.* xv. 318, fig. 1); Alvah, Banffshire (*op. cit.* vi. pl. iii. and xv. 328, fig. 8, and 329, fig. 9); Castle Newe, Aberdeenshire (*op. cit.* xv. 330, fig. 10); Drumside, Belhelvie, Aberdeenshire (*op. cit.* xv. 333, fig. 14 and 334, fig. 15); Bunrannoch (?), Perthshire (*op. cit.* xv. 336, fig. 16 and 337, fig. 17); Pittkelloney, Muthill, Aberdeenshire (*op. cit.* xv. 340); Kinghorn, Seafield, Fifeshire (*op. cit.* xv. 342); one example has been found near Newry, County Down, Ireland (*op. cit.* xv. 362. fig. 31).

[b] This illustration has been kindly lent by the Society of Antiquaries of Scotland.

[c] *Archaeologia*, xiv. 90.

[d] York volume of the Archaeological Institute, p. 10 and pl. 24. The thin plated bronze buckle of this find is suggestive of a somewhat late date. It approaches the types of the Danish Moss finds, *e.g.* Thorsbjerg.

[e] Lindenschmit, *Die Alterthümer, etc.*, band ii. heft vi. taf. 2. fig. 2.

Direct evidence as to the date of the Caledonian armlets is wanting, but that from Stanhope, in Peeblesshire, was found under some flat stones in company with a late-Celtic horse-trapping and a patella of Roman fabric,[a] which shows that some at least of this class overlap the Roman period in southern Britain.

There is, however, a class described as "thin-plated jointed armlets," in which the designs are executed on the lower relief, and show in their more stylistic foliations a somewhat later development of Celtic art, which, in some respects, corresponds still more closely with the designs on the Æsica brooch. A bracelet or armlet of this kind (fig. 14) was found near the ruins of Plunton Castle, Kirkcudbrightshire,[b] and with it may be grouped a thin-plated bronze diadem found at Stitchel, in Roxburghshire.[c] Perhaps the Æsica brooch may be taken to occupy a place intermediate between the earlier and later decorative style of the Caledonian ornaments.



Fig. 14. Bronze armlet found near Plunton Castle in the parish of Borgue, Kirkcudbright. ½[d]

In this connexion it is well to point out that the Backworth fibula, which stands in close relation to the Æsica brooch No. 1, also shows points of contact with certain late-Celtic ornaments from the northernmost parts of Britain. There exists, besides the other two classes of armlets already mentioned, a form of "snake" arm-ring, of which a specimen was found in the Sands of Culbin, Elginshire.[e] The ends of this kind of ring are fashioned into the heads of animals, and in the Culbin example the zoomorphic element is traceable in a pair of fantastic eyes and lines indicative of the hair or mane which recur on other specimens of its class. It looks as if these two eyes had been taken over as ornaments of the head of the Backworth brooch.

It will be seen that though these Scotch relics, which belong to the same late-Celtic school of art, do not afford any such direct evidence of date as may be deduced from the Æsica fibulæ, there is nothing in their case to conflict with the conclusions already arrived at. The Æsica fibulæ belong, as has been shown, to the end of the second century of our era, and the chronological landmark thus

[a] *Proc. Soc. Ant. Scot.*, xv. 316 *seqq.*

[b] *Ibid.* 351, fig. 28.

[c] Wilson, *Prehistoric Annals of Scotland*, ii. 146, fig. 131.

[d] This illustration has been kindly lent by the Society of Antiquaries of Scotland.

[e] *Proc. Soc. Ant. Scot.*, xv. 345, fig. 22, and xxv. 505, fig. 30.

supplied enables us to fix the later class of Caledonian armlets above described, as well as snake rings like those from Culbin sands, to about the same period.

In the history of late-Celtic art in Britain, the Æsica discovery is of high importance as enabling us to put a date to a definite stage of decorative technique. This is the more important since the next approach to a fixed point must be sought in the mixed Saxon and Celtic contents of certain graves in Derbyshire and elsewhere dating from about the sixth century, and to the earliest illuminated and goldsmiths' work of the Irish saints.

To return, however, to the Æsica fibulæ and the circumstances of their deposit. It is evident, from all Celtic analogy and from the terminal eyes or loops with which according to British usage they were both provided, that in each case we have to deal with one of a pair of brooches originally connected with a pendent chain. It might, therefore, be supposed that one fibula of each type is missing from the find. It appears, however, from the record kindly supplied me by Mr. C. J. Spence, that this loss must have taken place before the date of their deposit, and that they were either worn together as an odd pair, or were the share obtained by some individual from a double act of spoliation, Mr. Spence writes: "The fibulæ were found in one lump, and there were (when I first saw them) no traces of others having been attached. There was a good covering of mud, and the back of the gilt fibula bore on its mud a clear impression of the rim on the plate of the other. They had been lashed with string to a piece of wood, the grain of which ran in the direction of the long way of the fibula."

That, however, they were originally intended to be worn in pairs by British women there can be little doubt. An interesting illustration of the manner in which they were worn is, in fact, supplied by a series of Pannonian monuments, of which an example has already been referred to. The prototype of the fibulæ represented on these monuments resembles that of the first Æsica fibula, except that the hook-like projections from the bow, which keep in place the collar binding the retroflected foot to the back, in this case curve inwards instead of outwards (see fig. 8), and finally grow into a kind of arch. The costume with which they are associated and to a great extent the names of women that wear them, bear a Celtic or un-Roman character,[a] and in their great size these Pannonian brooches supply the best parallel to the Æsica fibula No. 1. It is interesting to note that their date agrees with that of the northern examples. They have been found

[a] Hampel, *Pannonische Costumbilder*, Ungar. Revue, 1881, 147-153. This form of fibula also extends to Noricum, Tischler, *Gurina*, 26 note.

with coins ranging from Domitian to the younger Faustina,[a] and reach down therefore beyond the middle of the second century of our era.

The suspicion may certainly cross our minds that the occurrence at the same period of a class of peculiarly large fibulæ among the Celtic border-population of North Britain and of the Middle Danube might not be a purely accidental coincidence, and that the Pannonian troops on the Wall[b] might have contributed to this result. It must, however, be borne in mind that these double fibulæ are female ornaments, and that of the two found at Æsica one is of purely British lineage, the other, though taken from a Gallo-Roman source, has been transformed by a Caledonian artist, and is Celticised in a fashion for which the Pannonian fibulæ afford no parallel. These brooches, at any rate the last, do not seem to have been made by any one living within the pale of the Roman dominion.

The deposit in the Æsica guard-chamber thus becomes the more remarkable. It is useless, indeed, to speculate as to the exact manner in which the relics reached the place in which they were found. We cannot positively decide whether the deposit represented a burial or a hoard of valuable possessions, though the balance of evidence seems to favour the latter hypothesis. All that we can learn from the find is that the owner of the Celtic fibulæ and collar was also the possessor of two Roman rings, but whether the rings represented spoil taken from the Romans by the barbarians or the fibulæ had been stripped from Caledonian wives by a Roman legionary, must remain uncertain. So much, however, we may gather from the circumstances of the discovery, that, at the date when these objects were deposited, at the end, namely, of the second century of our era, the turret was already in a ruinous condition and partly choked with *débris*. The objects are in too perfect preservation, and the find too homogeneous in its nature, to allow us to suppose that they had been placed in their present position at a date much later than that to which the objects themselves belong. Hence it follows that Æsica had already by the days of Severus been ruined by some barbarian incursion from beyond the Wall, and that from that time onwards no attempt was made to restore the western turret of the south gate.

[a] Tischler, *Gurina*, 27.

[b] Pannonians appear in one of the Cumberland forts just south of the Wall (*C. I. L.* vii. 417, *Ephem.* vii. 978), and we have the tombstones of individual Pannonians at Littlechesters (*C. I. L.* vii. 723), and probably at Housesteads (*ib.* 692). (F. H.)

Notes on Excavations at Æsica in 1894. *By* F. Haverfield, *Esq., M.A., F.S.A.*

About halfway between Newcastle and Carlisle the Roman Wall runs for ten or eleven miles along the crest of a high basalt ridge, which drops precipitously to the north. The range of cliffs is broken at several points by small gaps, the largest of which is perhaps that between Cawfield Crags and the Nicks of Thirlwall, where the little Caw Burn finds an outlet southwards to Haltwhistle and the Tyne. West of this streamlet the moorland rises slowly to the Nicks, and half a mile up the gentle slope is the farmhouse of Great Chesters, standing 600 feet above the sea level, in the north-east angle of a Roman fortress. The place is well situated; it has a southern exposure and gains additional protection against north winds from the rounded mass of Chesters Pike, which reaches the height of 800 feet about half a mile to the north. The fortress is of the usual shape, oblong with rounded angles; its northern face coincides with the Wall itself.[a] Internally it measures about 360 feet from north to south and 420 feet from east to west; the side which rests upon the Wall is, therefore, as at Housesteads and Bowness, the longer side. Its area, $3\frac{1}{4}$ acres, agrees with that of Carvoran, Chesterholm, and in general of about half the fortresses *per lineam valli*.[b] Outside, to the south-east lay the usual "civil settlement;" Dr. Bruce mentions a hypocaust as partially exposed in 1867. Further south, 300 yards from the southern face of the fortress, is the vallum, and beyond it the cemetery, indicated, though not precisely fixed, by three tombstones. The water supply, according to Dr. Lingard and Dr. Bruce, was brought from a source north of the Wall by a small circuitous channel. The channel may still be seen, but there was doubtless another and nearer source available at need. The name of the place was *Æsica*, which (Pro-

[a] The excavations of 1895 seem to show that the masonry of the Wall was bonded into the masonry of the fortress wall. In other words, there are indications that the Wall and this fortress were built at one and the same time.

[b] The areas of the fortresses, according to Bruce, are as follows: Birdoswald and Bowness, $5\frac{1}{2}$ acres; Chesters, $5\frac{1}{4}$; Housesteads and Benwell, 5; Halton Chesters, $4\frac{1}{2}$; Wallsend, Carrawburgh, Carvoran, $3\frac{1}{2}$; Rutchester, Chesterholm, Great Chesters, $3\frac{1}{4}$; Burgh, 3; Castlesteads, $2\frac{3}{4}$; Stanwix, $2\frac{1}{2}$; the area of Newcastle is unknown. East of Chesters (inclusive) the north faces of the fortresses project beyond the Wall; west of it (from Carrawburgh inclusive), the north faces of the fortresses coincide with the Wall, or else as at Chesterholm, Carvoran, and Castlesteads the fortress is south of the Wall.

fessor Rhys tells me) is probably not a Celtic word, a remark which applies also to *Hunnum* and *Procolitia*, but not to the other mural place names. The garrison in the third and presumably in the second century was the *cohors ii Asturum*. For the further history of the place we have three dated inscriptions. One mentions Hadrian, and may perhaps record the foundation of the fortress; a second is a fragment of about A.D. 165; the third commemorates the repair of a storehouse by the Asturian cohort in A.D. 225.

The site is now a grass field, and, as it has been little disturbed except in its north-eastern quarter, the Northumberland Excavation Committee of the Society of Antiquaries of Newcastle decided to excavate it. Owner and tenant gave every facility. Work began on July 23, 1894, at the south-west corner, and was continued into October. The most important result was the discovery in September of brooches and other ornaments, of which a full account is given by Mr. Evans. The following paragraphs are intended to describe very briefly the rest of the work of 1894.

1. *The south-west corner of the fortress.*—(i.) The corner turret, where the work began, is well built and well preserved; the inner walls are still standing over 6 feet high. In general it resembles the corner turrets of other mural fortresses. It has two flagged floors, one just a foot above the other: burnt refuse and marks of fire at the angles suggest that it has been used for cooking, and the objects found in it, a stone pestle and mortar, a quern, bits of iron and pottery, agree with the suggestion. (ii.) Fifteen feet east of it is a room of similar size, built like it against the wall of the fortress, but of the rudest masonry: the walls showed no outer faces, and may have been banked with earth. It yielded three coins (Trajan, Faustina), four bronze rings about 2 inches in diameter, and some iron fragments found lying together close to its west wall. It was roughly flagged, but had only one floor. (iii.) In the same quarter of the fortress the excavators found a large block of buildings, of which the south-west corner was 35 feet from the inside of the southern, 60 feet from the western fortress-wall. The masonry is rough. The block was not traced out; however, the area laid bare, 40 by 130 feet, seems to show a row of oblong chambers, each divided into two rooms, separated by narrow spaces: each chamber had its own outer walls and roof, like some buildings at Chesters and High Rochester. The floors were, as usual, double, and roughly flagged. The finds included two lettered fragments (IAE and XLVIII, not belonging together), two damaged bronze *paterae*, pottery, etc. Scattered through the rooms were half a dozen carefully-grooved, slightly-

wedged stones, which Mr. Holmes has identified as arch-stones. Similar blocks have been found at Chesters.[a]

2. *The Vault.*—A subterranean arched chamber has often been noted in the centre of the fortress. This was opened, or rather reopened, in August. It is a chamber about 6½ feet square, roofed with five courses of stone, the pavement being about 5 feet below the crown of the arch and 4 feet below the present average surface level. This pavement consists of 3-inch flags resting on dwarf walls which themselves rest on undisturbed soil. A modern horseshoe drain has been carried through them, and Mr. Holmes doubts if the flooring is original. On the west side of the vault some large stones form an accidental or intentional ledge 8 inches high and 28 inches wide; on the north side the bed rock (whin) juts out to the same height. The exit was eastwards, but no steps were found. In general, this vault closely resembles a slightly larger vault which stands under a room on the south side of the *praetorium* at Chesters.[b] Vaults have been noted also at High Rochester, at Carnuntum, and in some of the Limes forts, in each case under a chamber of the *praetorium*. A variety of facts suggests (as Zangemeister and Hettner have observed) that these vaults were strong rooms under the *sacella* of the forts,[c] and we may well suppose the vaults at Æsica and Chesters to have served the same end.

3. Finally the south gate was discovered to have stood where the modern road passes through the wall to reach the farmhouse. It is strangely far from the centre of the south side of the fortress; a similar feature may be noticed at Housesteads. The walls of the western guard-chamber were found fairly well preserved, but neither door nor floor was recognisable. I noticed, however, clear indications that this gateway, like so many of the mural gateways, was at some time or another at least partially walled up.[d] Inside the guard-chamber the workmen found the remarkable fibulæ, rings, etc. which Mr. Evans describes; It is necessary here only to observe that these relics can hardly have been deposited much later than the end of the second century. It is uncertain whether they were found lying on or above the original floor level, but it is tempting, and perhaps not very rash, to connect them with the walling up of the gateway, and thus to obtain an approximate date for the latter.

[a] Bruce, *Handbook*, p. 101.

[b] Bruce, *Wall*, 155.

[c] See *der Obergermanisch-raetische Limes*, No. 44, Kastell Murrhardt, pp. 9-10.

[d] The western gateway, excavated in 1895, was found to have been wholly walled up: the masonry indicated that one-half had been closed first and the other at a later period.

Outside the guard-chamber, and a few feet west of it, close to the inner face of the fortress-wall, the workmen found a largish quantity of bronze scale-armour. Smaller quantities of such armour have been discovered also at Walltown Crag, not far west of Æsica, at Hod Hill in Dorset, and Ham Hill in Somerset;[a] and at several places on the continent, Naples, Avenches, Mayence. The sepulchral reliefs of two Sertorii found at Verona, and probably dating from A.D. 69, show that such scale-armour was worn by the legionaries, and Dio (lxxviii 37) tells us that the emperor Macrinus abolished its use by the praetorians in A.D. 217.[b] The scales appear to have been attached by wire, and fastened on to a leathern cuirass: there is some slight reason to think that the result was something more in the nature of show-armour than the ordinary forms of breastplate.

Twenty-eight coins were found, of which Mr. C. J. Spence has kindly sent a list.[c] The only coin of interest is a legionary *denarius* of Mark Antony, having on the one side ANT AVG IIIVIR RPC and a galley, on the other LEG X and an eagle between two standards; it was found three feet below the present surface just outside the corner turret. Antony's legionary issues were in circulation even in the first portion of the third century, and have been found at several places on or near the Wall, at South Shields, Maryport, and elsewhere. The other coins recorded from Æsica belong to Domitian, Trajan (3), Hadrian, Pius (2), Marcus, the younger Faustina, Severus, Elagabalus, Victorinus, Tetricus, Allectus, Crispus, Constans (2), and Magnentius: nine are undecipherable.

The results of the work, apart from the one remarkable find of fibulæ, rings, etc., may appear scanty, but this was to be expected. Æsica seems, indeed, closely to resemble the other mural fortresses; it shows the same paucity of lesser finds, indications of the same ground plan, and the same abundance of buildings which characterises the excavated fortresses and forts in northern England, except Hardknott castle,[d] and distinguishes them from the forts along the German *limes*.

[a] Rome Hall, *Archaeologia Æliana*, xvi. 443.

[b] *See* Albert Müller, *Philologus*, xl. (1881) 248 foll.; Lindenschmit, *Tracht und Bewaffnung des römischen Heeres*, pl. xii. Presumably it was also used by auxiliaries, as on the Wall.

[c] It will be found in full, *Archaeologia Æliana*, xvii. pp. xxx.-xxxi.

[d] Excavated in 1892-3 by the Cumberland and Westmorland Architectural and Archaeological Society; see their *Transactions*, xiii. 375 *et seqq.*

IX.—*On a Bronze Statuette of Hercules.* *By* A. S. Murray, *Esq., LL.D., F.S.A.*

Read March 14th, 1895.

The bronze statuette of Hercules which Lord Carlisle exhibits to-night at the desire of the President is said to have been "dug out of the Roman wall." But the precise spot appears to be now unknown. One statement gives Northumberland; another, his lordship's property of Naworth, in Cumberland, which is no great distance from the Roman station of *Amboglanna* (Birdoswald). One could suppose that the bronze had been brought to this country by some officer attached to that camp. That would mean in the time of Hadrian, by whom this station on the Roman wall was established. And were the figure of pure classical workmanship there would not be much more to be said on that point. But you will see that the bronze cannot be of classical origin, and this suggests an alternative that it may have been brought to this country by a devotee of the Tyrian Hercules established at Corbridge, in Northumberland, where an altar to him has been found.

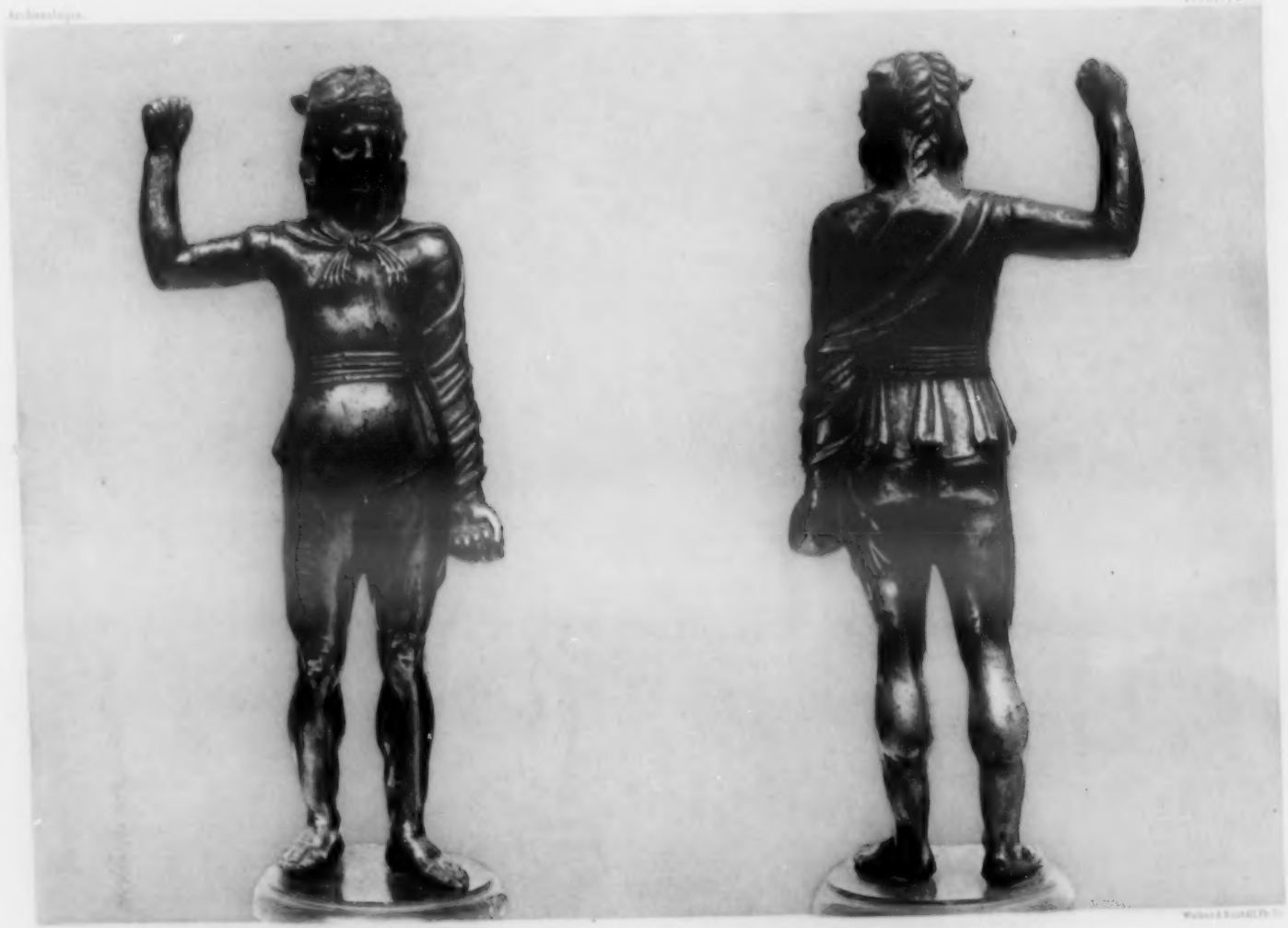
Among the non-classical elements in the bronze may be noticed the action of the left arm with the clenched fist turned out to the front. It is a forcible but rude effort to express in the left hand an energy corresponding to that of the right hand, which has held the club raised to strike. In an archaic bronze statuette of Hercules in the British Museum, with the right hand similarly raised, the left finds nothing better to do than to hold the tail of the lion's skin, and it is not impossible that this may also have been the action of the Carlisle bronze. Again, the girdle worn round the waist with its three clasps fastened in front resembles nothing so much as certain archaic bronze girdles which we possess in the Museum, while the short skirt falling on the hips finds its best parallel in Greek sculpture of the sixth century B.C., and on the contemporary vases. To that period also belong the short body, massive legs, and the habit of

standing with both feet flat on the ground. The manner of wearing the lion's skin is no less characteristic of archaic Greek art, though not exclusively so, than are the other features just mentioned. It is a manner of wearing the lion's skin which is conspicuous also on those coins of Macedonia which we see rudely copied by the Gaulish mints.

And this brings me to the observation that the face of Hercules is very pronouncedly of the Macedonian type, and grandly rendered in its way. There is no element of archaism there. On the contrary, the face is in all essential points exactly the face of Hercules which was introduced into Greek art shortly before the time of Alexander the Great. It may be roughly executed, but there is no mistaking the source of this face. If these observations are correct we are landed in this difficulty, that the sculptor of this bronze has availed himself of two different periods of Greek art, taking the head from the Macedonian period, and the body from nearly two centuries earlier. No classical artist would have done that, not at least to the extent of retaining the two different elements so clearly and distinctly apart.

The question arises as to where such work could have been executed. I am inclined to think somewhere in Gaul. We hear from Pliny[a] of a Greek sculptor Zenodorus, who worked for ten years on a colossal bronze statue of Mercury in a town in Gaul, and we can imagine that during this period he may well have attracted round him a certain number of natives with artistic gifts. Subsequently he was summoned to Rome by Nero and there worked for him. We know Nero's taste for statues of gilded bronze, and we are told in the passage I am referring to that Nero was prepared to allow Zenodorus any amount of gold and silver for the statue he was making for him in Rome. That seems to fit in with the gilding on Lord Carlisle's bronze. So does also the statement which Pliny here adds, viz. that the statue of Nero by Zenodorus showed that the art of casting in bronze had disappeared, though Zenodorus was second to none of the ancients in his skill of modelling or of chasing. The Carlisle bronze is cast solid and is therefore an instance of the loss of the art of true casting. Pliny goes on to remark that Zenodorus, while at work in Gaul, had made copies of extraordinary exactness from two cups which had been chased by Calamis, a Greek artist of the end of the archaic period. The cups had been handed down to the Governor of the Gaulish province. Thus, a native Gaulish artist would apparently have had no difficulty at that time in finding Greek originals of various periods from

[a] *Nat. Hist.* xxxiv. 45



BRONZE STATUETTE OF HERCULES FOUND IN CUMBERLAND.

which to combine what features most attracted him for a figure of Hercules. We see this also in a bronze bust copied from the Doryphorus of Polycletus which has been found in Gaul.[a] The famous gold treasure of Vettersfelde, in Brandenburg (now in Berlin), and several other finds attest the presence of archaic Greek sculpture in Gaul and Germany, whether as contemporary imports from Greece or as the imports of Roman connoisseurs in later times. We know how much the Romans valued the archaic sculpture of Greece, and how readily they acquired Greek works in metal, carrying them about with them in their military expeditions, as did Nonius Vindex a statuette of Hercules by Lysippus, which had once belonged to Alexander the Great. These remarks, if accepted literally as bearing upon the Carlisle bronze, would lead us to place its origin about the time of Nero, and that would involve the difficulty of accounting for its finding its way to this country at that date. But if this difficulty is insuperable, we could imagine that the Greek influence of Zenodorus in Gaul may have lasted on to the time of Hadrian, and I would accept this view the more readily from remembering how strong the tendency was in the age of Hadrian to imitate archaic Greek sculpture.

In quoting the instance of a Roman general, Nonius Vindex, carrying about with him a famous bronze statuette, I did not wish to imply that the Carlisle bronze had been similarly brought to this country by a Roman general. A work of so distinctly provincial a character would hardly have attracted a Roman, however great an admirer he may have been of Hercules. But admiration of Hercules was not in those days confined to Roman generals in this country. I have already mentioned an altar found at Corbridge and now in the British Museum which bears a dedication in Greek to the Tyrian Hercules by a priestess, Diodora. So that even a priestess may have brought the bronze to this country, whether a Greek or a Gaulish priestess.

I am not directly suggesting that this Greek-speaking Diodora had actually brought over this bronze as an image of the Tyrian Hercules whom she served. There would be this objection so far as it goes that the Tyrian Hercules as we see him not unfrequently on Gaulish coins, is of a somewhat different type. He there holds his club downwards to the ground, is nude, and has no sign of archaism. As you are aware, these Gaulish coins were copied from the later coinage of Thasos, in which island the worship of the Tyrian Hercules had, according to tradition, been established by the Phœnicians at a very early period. At the same time the type of the Tyrian Hercules was not absolute and unchanging. We know as much

[a] Reinach, *Antiquités Nationales* (Musée St. Germain), 222

from the archaic coins of Thasos itself, and from certain literary records. There was a statue of him holding a club in one hand and a bow in the other sent to Olympia by the people of Thasos (Pausanias, v. 25, 7), and there was at Erythrae an image of him floating on a raft. Between these extremes a good many varieties of type are possible, one of which may have been seen by our Gaulish sculptor.

Were it known for certain that the bronze had been found in Northumberland, say at Corbridge itself, it would not necessarily follow that we have here the type of the Tyrian Hercules, as there worshipped. Yet believing as I do that the Carlisle bronze is of Gaulish workmanship, and finding as we do among existing Gaulish figures of Hercules a not inconsiderable variety, not to mention the curious and as yet unattested type of that deity described by Philostratus, I do not see any serious objection to regarding this bronze as a Tyrian Hercules made by a Gaulish artist and brought to this country by an adherent of that particular form of worship.

But be these observations ever so wrong, there is no doubt that we have here a most interesting example of provincial sculpture, executed in Roman times, and combining artistic features derived from two widely different periods of Greek art.

*** This interesting figure has since been acquired by Sir A. Wollaston Franks, K.C.B., President, and by him presented to the Anglo-Roman collection at the British Museum.

X.—*Further Excavations in a Cemetery of South Saxons on High Down, Sussex.*

By Charles Hercules Read, *Esq., Secretary.*

Read 20th June, 1895.

The first exploration of this cemetery in the autumn of 1893, of which I had the honour of laying an account before the Society,[a] was of so interesting a character that it was felt both by Mr. Edwin Henty and myself that it would be desirable to ascertain whether other graves did not exist within the limits of the ancient British camp. With this view the examination of the adjoining ground was made in the autumn of last year, and the results not only fully justified the examination, but resulted in discoveries of far greater interest than those previously made, and in one instance, at least, of a character hitherto unknown in England.

It may be well to refer again to the position of High Down Hill, though it is probably well known to most Fellows of the Society. It stands about two miles from the sea, behind the village of Ferring, a few hundred yards west of the well-known Miller's Tomb, and about five miles to the west of Worthing, the land between the down and the sea being a dead level of fertile soil. Almost every place-name in the neighbourhood is of Saxon origin, and it is somewhat to be wondered at that more discoveries of remains of this period have not been made in a country so full of Saxon associations. The cemetery lies within the ramparts of the ancient British camp, about the middle of the southern side, and extends northwards, covering rather more than half the width of the camp. The Society will be interested to know that General Pitt-Rivers proposes, with Mr. Henty's concurrence, to make a careful exploration of the camp itself, an undertaking that will doubtless produce results of an interesting character.

In my former paper I gave a detailed account of the contents of each of the

[a] *Archaeologia*, liv. 369-382.

thirty-two graves then opened. I do not propose to do this on the present occasion, for the second set of graves presented no new features in the method of burial, and though the associated remains differed in detail they occupied the same general positions in the graves as those of the previous year. I have therefore appended the list of the graves at the end of the paper. There appears to be no reason for believing that any difference in tribe or in period existed between the set of graves first explored and that now under consideration. In both cases the graves were, in almost every case, dug east and west, the head being always towards the west; the depth of the graves varied from about 3 feet to 4 feet 6 inches; the skeletons were, in most instances, extended on the back; and the filling in of the graves presented the same characters, the most marked of which was a layer of grey matter just above the skeleton. On the last occasion I expressed my regret that I had been unable to get an anatomist to examine the skeletons and preserve good characteristic specimens, so that the physical characters of the race buried here might be recorded. Although I made vigorous representations to sundry anatomical friends I could get nobody on the ground at the right time, as our Fellow Professor Macalister, who had promised to help, was prevented at the last moment from coming down. But for the accidental presence of Mr. Victor Horsley, I should have been quite without advice, and the chance visit that he paid resulted in the preservation of several skulls, now at Cambridge, and of a complete skeleton that he tells me is of some interest.

Although many objects of interest in bronze and iron have been found in this cemetery, there can be no question that the most important series is that of glass vessels. In the county of Sussex the association of so many vessels of glass with Saxon interments has been hitherto unknown, and I know of no cemetery of so small an area elsewhere that has been so prolific in vessels in this fragile material, unless, perhaps, the King's Field at Faversham. But from the mystery surrounding all the discoveries in this last locality it is impossible to say with any certainty what was really found there. As a general rule, it may be said that glass vessels are comparatively rare in Saxon interments, and the difficulty of comparing the examples scattered in small museums and private collections no doubt accounts for the fact that there is no exhaustive account of this important branch of art. Mr. Roach Smith, in his useful edition of the *Inventorium Sepulchrale*, gives but two pages to the account of the numerous glass vessels in the Faussett Collection, and beyond referring to the similarity of the vessels found in England to those from France and the Rhine, as to which there can be no doubt, he makes no attempt at the history of the art. Mr. Nesbitt, in his

Introduction to the Slade Catalogue, in like manner dismisses the subject in a few paragraphs, and there is no further information in his *Catalogue of Glass Vessels in the South Kensington Museum* (8vo, 1878). M. Garnier, in his recent work, *Histoire de la Verrerie*, is equally reticent. This shows clearly that the history of glassmaking during the dark ages has yet to be written, and that it has not been written is due, I think, rather to the difficulty of the task than to the paucity of the material.

Of the glass vessels upon the table all are worthy of examination, and three of them present features of special interest. The small bowl of clear white glass is remarkable for the oval depressions on the sides, a peculiarity of make that recalls the Roman drinking cups of pottery from the New Forest, an example of which, curiously enough, has been found in this cemetery, and one is tempted to think that it may have suggested the form to the glass-blower. Though good in colour, the glass is of poor quality and full of inequalities. The same may be said of the plain green conical glass drinking-horn; it is far inferior in make to the larger one of the same form shown last year. The other conical cup is better as a specimen of glass, and has in addition festoons of white glass round the body. An exactly similar vessel from Kent is in the museum of the Kent Archæological Society, and there can be little doubt that both issued from the same workshop. This method of ornamentation has been singularly persistent throughout the entire history of glass-making. It is common now; it was equally common in the last century, both in this country and abroad; in Venice it is an old pattern. Almost all the charming glass bottles from Camirus in Rhodes, and from other islands of the Mediterranean, are decorated in this way, while in Egypt the most ancient examples of ornamented glass are found with this design. One main reason for the universal adoption of the pattern is, no doubt, the simplicity of its production, but there is great probability that the design has been handed down from ancient times. This horn was the only object found with the body of its former owner, and it lay, as usual, at the head of the grave (Grave XXXIII.). The glass bowl with a foot is unusual in shape. It was found, unfortunately, in many fragments, in Grave LIII., with a number of small bronze objects, and an iron strike-a-light. In make it much resembles the tall goblet found in the 1893 excavations, the bowl and foot being made in a single piece.

The most noteworthy, not only of the glass vessels, but of all the remains found in the cemetery, is the greenish glass phial engraved with a frieze of hare and hounds, and an inscription in Greek letters round the lip (Pl. VIII.). This was found in Grave XLIX. on the second day of the diggings, and was the only

object found in the grave. It will be seen that the quality of the glass is very different from that of the other examples, this piece, though not of the first quality, bearing a strong resemblance to some of the Roman glass found in Britain. In shape, however, it is no more like Roman than Saxon, and I have been unable to find any figure of a vase, either in glass or pottery, at all resembling it. The design is cut on the wheel, not deeply, but the surface is engraved just enough to show the design. This design consists of a band round the body of the vase, upon which are represented a hound pursuing two hares, the intervening spaces filled with formal fern-like branches. Such representations, and in the same style as that before us, chiefly upon pottery, are by no means rare in late-Roman times, about the third or fourth century of our era, though they have been hardly, if ever, found under like circumstances. The inscription is engraved in the same way as the frieze, and consists of the words

+ ΟΥΓΙΕΝΩΝ ΧΡΩ.

extending round the circumference. Various suggestions have been made as to the precise meaning of these two words. It was thought that the *ὑγίεινων* might be the name of the medicine vendor who supplied the bottle and its contents, and a second suggestion was that the final *χρῶ* indicated a Christian origin. But the true explanation is quite of a different character, and was, I think, first suggested by our Fellow Mr. Haverfield. It is that the inscription before us is simply a Greek form of the common Latin inscription *Utere felix* or *feliciter*, so frequently found upon objects for use, such objects having originally no doubt been intended as gifts, to carry with them a good wish. Sir John Evans was kind enough to call my attention to a paper by the Rev. S. S. Lewis,[a] describing a vase inscribed *Utere felix*, found in Cambridgeshire. In this memoir reference is made to an able paper by Monsieur E. Miller, in the *Revue Archéologique*,[b] upon a small gold hairpin (or earpick) with the following inscription :

"Ὑγι[αί]νουσα χρῶ, κύρα. Καλῶν κ[αι]ρῶν ἀπολαύσῃς."
"Salva utere, domina. Felicibus temporibus fruaris."

M. Miller's remarks upon this inscription apply so well to the specimen before us that I cannot do better than quote what he says : "Let us first examine the two first words of our inscription, Ὑγιαίνουσα χρῶ. They answer to the Latin formula *utere felix* or *utere feliciter*, which is met with on a great number of

[a] *Cambridge Antiquarian Communications*, iv. 337.
[b] Vol. xxxviii. (1879), 39-45.



GLASS VESSEL FROM A SAXON GRAVE ON HIGH DOWN, SUSSEX.

jewels. . . . The words ὑγιαίνουσα and χρῶ, like the Latin ones *feliciter* and *felix utere*, are not necessarily connected in meaning; they are independent of one another. One can understand that the use of the object in question is not subordinated to the state of health of the owner. The word ὑγιαίνουσα simply expresses a wish, like *feliciter* or *felix* in the Latin form." M. Miller then cites Lucian's treatise "on a fault committed in saluting," where the precise value of ὑγίαινε as a salutation is shown. He then says, "With regard to the expression χρῶ, which answers to the Latin *utere*, it is found on precious stones and other objects. M. Le Blant[a] cites a plaque of grey glass, covered with a layer of green enamel. This little piece bears the words EIPHNH XPΩ in two lines. The same inscription is found on two other objects represented by Ficoroni,[b] who rightly considers EIPHNH as a proper name rather than as the dative εἰρήνῃ, and he has translated it as *Irene, utere*. Let us add that certain critics have seen in the word XPΩ an abbreviation of Χριστῷ, and have thus explained it." The gold pin is considered by M. Miller to belong to the tenth century, so that its relation in date to our glass is not very close, but I think it finally disposes of the meaning of the inscription, which may be expanded into "Make use of me, and may you keep in good health."

There is still one question about this phial to be decided, and that is the nature of its contents, and though I am not able to give a certain answer, yet with the help of my friend Professor Church I can give one that has all the elements of probability. When found, the bottle contained a number of fragments of a dry gelatinous film, mingled with tiny pieces of chalk. A portion of the contents was submitted to Professor Church for determination, and his reply is as follows:

"I have examined the ΥΓΙΕΙΝΩΝ ΧΡΩ. both under the microscope and chemically.

Putting on one side the little bits of chalk present, I find that the buff translucent pitted elastic pellicles consist mainly of a nitrogenous organic substance akin to gelatine. It might once have been skin—anyhow, it is certainly of animal origin. This most abundant constituent is accompanied by an aromatic substance. This is probably a fragrant vegetable balsam, but it occurs in very small proportion. There is also a little oxide of iron in these films. Lime in the form of carbonate is also present, but this may be due to the infiltration of calcareous

[a] *Bulletin arch. de l'Athenæum franç.* Feb. 1856, No. 2.

[b] *Gemm. Ant. Litt.* p. 41, pl. VI. 5.

water, and cannot be regarded as a certain original part of the material under discussion.

Is it possible that the preparation was a cosmetic? If so, it might have been made by mixing a red pigment of organic origin with chalk and size, and scenting it with a little powdered frankincense: the red pigment being perishable has disappeared."

This seems to me a very plausible hypothesis. So small a vessel can scarcely have been intended for a drink, seeing that the drinking-cups would each hold as much or more, while on the other hand nothing is more common than to find in these graves the implements of the toilet, and to these a bottle of fragrant cosmetic would form a fitting adjunct.

It is not easy to decide, upon the slender evidence of the object itself, the exact spot of its manufacture. There can be little doubt, however, that it was not made in Britain. The early Saxon settlers in Britain were not a literary race, and we may safely assume that the owner of this bottle did not think the more of it because the legend was written in Greek, but rather that its form or its contents were unlike the possessions of his neighbours. For the same reason it is not likely that it was the production of any of the Teutonic tribes who remained upon the Continent. The Greek inscription points to the south, and having got so far, it seems most probable that an object of this kind would come from Byzantium itself. The trade routes from the south to the north of Europe did not depend upon the Roman domination in Britain, and although the nature of the wares doubtless changed with the changing population, there is every reason for thinking that the trade with the Continent continued practically without interruption after the departure of the Romans from Britain.

The question of the place of manufacture of the typical Saxon glass vessels is not so easily disposed of. An examination of even a small series will show a great variety in quality, both in the glass itself and in the technical processes of the manufacture. Many of the small cups of simple outline would require the smallest amount of skill to make, and, given the knowledge of glass-blowing, they might have been made anywhere, and it is very possible that some were made in England. With the more complicated and elaborate vessels, such, for instance, as the drinking cups with hollow lobes at the sides, the conical cup from Kempston, and the cup of similar form from High Down, shown last year, it is far otherwise. To produce objects of such perfect execution, with such a complication of details, must have required trained workmen and a settled factory. The evidence of the graves tends to prove that this factory was not in England. The same forms are found in Normandy, in Belgium, and in Germany, as are found in England, but

the contents of the museum at Namur alone would almost suffice to prove that somewhere in its neighbourhood was, at any rate, one of the head-quarters of the glass work of the Saxons. These remarkable remains of Merovingian and Frankish times are all from the country in the vicinity, and I think a careful comparison of the finds on the Continent would show that somewhere between the Meuse and the Rhine was the seat of the glass workers who produced the choicer examples of our Saxon graves.

The vases of pottery found are of small size when compared with those of East Anglia, but while cremation was the rule in that district there was no sign of it on High Down. The pottery vessels were, therefore, doubtless used as receptacles for food. With the single exception of the Roman cup before mentioned, they seem all to be made by hand alone, without the use of the potter's wheel. Some of them are not inelegant in form, and are, for such vessels, elaborately decorated. This particularly applies to the two vases from Graves LXXIX. and LXXX. The types are, as before, quite unlike those of Kent, nor do they, except in details of ornament, resemble the pottery from East Anglia. It may be of interest to mention that one of the smaller vases, that from Grave XLVIII., in which was the body of a child of about six years of age, had a piece of stone as a cover. The little Roman cup of New Forest ware is an interesting discovery, for it helps us in some degree with regard to the date of the cemetery. It was the only object in the grave, and the skeleton was much decayed.

Mr. Akerman in his account of the Roman potworks in the New Forest[a], considers that the factory continued up to the end of the fourth century at least; and while agreeing with him in this, I can see no reason why it should not have continued to produce pottery even for a century longer, and thus within measurable distance of the time when these South Saxons were living and dying on the Sussex downs.



Fig. 1. Barbaric bronze head found in an Anglo-Saxon cemetery on High Down, Sussex. ½.

In connection with this point I should like to call attention to a small bronze bust or head (fig. 1) found in Grave XLVII. with a third-brass coin of Constantius II. This small work of art has traces of classical style, but it is clearly barbaric in execution, and, I think, may fairly be set down to about the fifth century. It represents the head

[a] *Archaeologia*, xxxv. 91-99.

of a young faun, and all the characters and attributes are those found in Roman work of a good period; the pointed ears, the hair in heavy locks over the forehead, and the indications of a sprouting beard, and even the broad half-laughing face are just what may be found in the Bronze Room of the British Museum.

Grave LXXIV. contained another remarkable object, a penannular brooch of bronze about 3 inches in diameter, with a stout pin passing considerably beyond the circle (Pl. IX. fig. 5). This is very Celtic in type and is noteworthy in this respect, for though Celtic patterns are occasionally found with Saxon interments, it is usually at a later period and in connection with Christian burials. With this brooch were found a pair of smaller bronze brooches of the usual style, but of a type new to this cemetery, and one of the little bronze sheaths or tubes, the use of which we have not been able to determine.

This, I fear, concludes the exploration of the High Down cemetery. Mr. Henty has made sundry tentative explorations since the diggings came to an end last autumn, and we have come to the conclusion that very little more will be found. The results have, however, been I think highly satisfactory, for apart from the first graves, of which we have no record, eighty-six have been carefully explored and of these only a small proportion have been destitute of remains. Mr. Henty is to be congratulated upon so prolific a piece of property, and we owe him our thanks for giving us the opportunity of studying what he has been so fortunate as to find.

LIST OF THE GRAVES EXPLORED ON HIGH DOWN HILL, NEAR WORTHING, IN THE AUTUMN OF 1894.

The numbers are in continuation of those in the previous communication (*Archaeologia*, LIV. 369-382).

Grave XXXIII. At head, glass drinking horn with festoons in white. (Pl. IX. fig. 1.)

Grave XXXIV. Right of head, iron spear-head 8½ inches long. Square bronze buckle, with iron pin, 1½ inch wide, and heart-shaped bronze plate with carbuncle paste. (Pl. IX. fig. 2.) At hips an iron knife and strike-a-light.

Grave XXXV. Skeleton only, well preserved.

Grave XXXVI. On breast, circular bronze brooch, with embossed plate, much decayed. String of beads from breast to hips, amber and glass, some of the latter of very small size. At hips, circular ring brooch. The finger bones stained green by a double bronze ring which was apparently clasped in the hand. In the ring was a mass of iron rust. Bronze tube, about 2 inches long. Iron knife.

Grave XXXVII. No relics.

Grave XXXVIII. No relics.

Grave XXXIX. Globular vase of pottery at right of head. Iron knife. Plain bronze buckle. Portion of iron tweezers. Flat oval iron ring. Two bronze studs, shield-shaped. Bronze tube, tapering, 2½ inches long.

Grave XL. Circular bronze band near head. Iron spear-head at left shoulder, 13½ inches long. Bronze tweezers at waist.

Grave XLI. Two bronze penannular brooches on breast, diameter 1¼ and $1\frac{1}{16}$ inches.

Grave XLII. Iron spear-head at right shoulder, 9½ inches long. Iron knife at right side, 5⅜ inches long. Decayed iron ring, 2 inches in diameter.

Grave XLIII. No relics.

Grave XLIV. No relics.

Grave XLV. Iron knife on right hip, $6\frac{1}{2}$ inches long. Iron buckle on left hip, width $1\frac{1}{8}$ inch.

Grave XLVI. Body of a strong man lying on right side. At hips a small bronze buckle, $\frac{3}{4}$ inch wide. Iron knife, $5\frac{7}{8}$ inches long.

Grave XLVII. Third brass coin of Constantius II. (A.D. 337-361). Bronze bust of a faun (fig. 1).

Grave XLVIII. Child about six years of age. Pottery vase with small stone slab as a cover.

Grave XLIX. At head, glass bottle containing the remains probably of a cosmetic, engraved with frieze of hare and hounds and inscribed round the lip ΥΓΙΕΝΩΝ ΧΡΩ. (Pl. VIII.)

Grave L. Under chin, flat annular brooch of bronze. On right hip, small bead of dull brown bone (?) and five irregular beads of amber, diameter $\frac{1}{2}$ inch to 1 inch.

Grave LI. No relics.

Grave LII. Here the trench cut through a grave containing two bodies of adults, heads due south-west. No relics.

Graves LIII. At head, glass bowl with foot, much broken. On right hip a strike-a-light. Square bronze mount. Bronze strap tag. Iron knife. Two fragments of bronze mounts (? from lip of a bucket). Bronze triangular stud with rivets. Penannular iron ring.

Grave LIV. Body at right angles to usual direction, with head due south-west. Near head, fragments of pottery vase, 3 to 4 inches high.

Grave LV. Body of aged person, 70 to 80. No relics.

Grave LVI. Body due north and south. No relics.

Grave LVII. Body of powerful man. Above head, bronze buckle with semi-circular plate. Strike-a-light. Iron knife. Iron buckle with two straight bars.

Grave LVIII. Apparently the grave of a child; no bones remaining, a milk tooth only. Large bone bead, diameter $1\frac{1}{4}$ inch. Hexagonal bead of sapphire blue glass facetted, diameter $1\frac{3}{16}$ inch. (Pl. IX. fig. 3.) Three circular bronze pendent discs, diameter $\frac{13}{16}$ inch. Oblong bronze plate, length 1 inch. Oval bead of jet (?), diameter $\frac{11}{16}$ inch. Melon bead of dark amber glass. Fragment of iron knife. Bronze wire brooch. Small pottery vase in fragments, impressed ornament round neck.

Grave LIX. Near head two small bronze cramps (?). At hips iron buckle, width $1\frac{5}{8}$ inch.

Grave LX. Square bronze brooch, a thin plate with circular opening, 2 inches wide. (Pl. IX. fig. 4.) Circular bronze brooch with ornament of circles, iron pin. Iron buckle much decayed. Iron knife. Iron nail (?). Circular bronze brooch, tinned, plain; at hips.

Grave LXI. Child about six or seven years of age. South-west and north-east. No relics.

Grave LXII. Young adult woman. Above head square bronze mount, ornamented. On breast pair of bronze brooches. Line of charcoal.

Grave LXIII. No relics.

Grave LXIV. No relics.

Grave LXV. No relics.

Grave LXVI. No relics. (Skeleton preserved by Prof. Victor Horsley.)

Grave LXVII. No relics.

Grave LXVIII. No relics.

Grave LXIX. Child. Pottery vase.

Grave LXX. No relics.

Grave LXXI. Two gilt bronze brooches. Iron knife at left side.

Grave LXXII. Circular bronze brooch much decayed. Iron pin. Amber bead.

Grave LXXIII. Child. Circular bronze brooch. Seven beads.

Grave LXXIV. Bronze sheath at left of neck. Iron knife. Iron buckle in middle of grave. Bronze penannular brooch, 3 inches diameter at pelvis (Pl. IX. fig. 5). Two bronze brooches on chest. Small bronze buckle. Bronze object like paper-fastener at left of head.

Grave LXXV. No relics.

Grave LXXVI. Iron buckle. Iron knife. Iron strike-a-light. Bronze pin.

Grave LXXVII. No relics.

Grave LXXVIII. Vase of pottery.

Grave LXXIX. Vase of pottery. A second vase with constricted neck, 3 inches high. Plain conical glass drinking-horn, $5\frac{1}{2}$ inches high.

Grave LXXX. At right of head, ornamented vase of pottery, with bulbous neck, 5 inches high. Near it, spear-head of iron, 8 inches long. Iron knife at left side.

Grave LXXXI. Skeleton with legs crossed. Iron buckle. Iron knife.

Grave LXXXII. Cup of New Forest ware (Roman).

Grave LXXXIII. No relics.

Grave LXXXIV. No relics—a prolongation of No. LXXXIII.

Grave LXXXV. String of 151 beads. Iron knife. Bronze sheath with portion of iron blade, at left side of head. Bronze wire bracelet on arm. Bronze ring with toilet implements. Two circular bronze brooches, much decayed. Fragment of bone comb with iron rivets, lying on a piece of leather, no doubt the remains of its case.

Grave LXXXVI. No relics.



SAXON ANTIQUITIES FROM HIGH DOWN, SUSSEX.

XI.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1895. *By* W. H. St. John Hope, *Esq., M.A., and* George E. Fox, *Esq., Hon. M.A. Oxon., F.S.A.*

Read March 19 and March 26, 1896.

The report which we have the honour of submitting to the Society, on behalf of the Executive Committee of the Silchester Excavation Fund, of the discoveries made during the past year, is also the record of the systematic excavation of the site for the sixth successive season.

The excavations were resumed on May 7th, under the direction and supervision of our colleague Mr. Herbert Jones, F.S.A., to whom a deep debt of gratitude is due not only from the Committee of the Silchester Excavation Fund, but from antiquaries in general, for the patient watchfulness and constant attendance so freely given for nearly three months. The excavations carried on after harvest were supervised by Mr. Mill Stephenson, Mr. A. H. Lyell, and ourselves.

Following up our principle of working from the known to the unknown, the excavations of last year were extended to two *insulæ* immediately to the south of part of the preceding year's work, on the other side of the main street that traversed the city from east to west. These two *insulæ*, which we have numbered XIII. and XIV., extend from the city wall on the west, to *Insula* II., which was excavated in 1891, on the east. They together cover an area of 3½ acres.

The portion of the city wall that bounds *Insula* XIII. contains at its northern end the remains of the west gate. This was fully described in our first report, of the excavations carried out in 1890.[a] About 180 feet south of the gate occurs one of the pilaster-like strips that are found at intervals of some 200 feet throughout the circuit of the city wall. The upper part of the wall, for its entire course, is set back 2 feet, so that the lower part forms as it were a deep plinth. From

[a] *Archaeologia*, lii. 754-757.

this plinth are carried up the broad strips in question. They have an average width of 12 or 12½ feet. They can hardly have served or been intended for buttresses, and are more likely the bases of a series of watch-towers or turrets set astride the wall at more or less regular intervals.

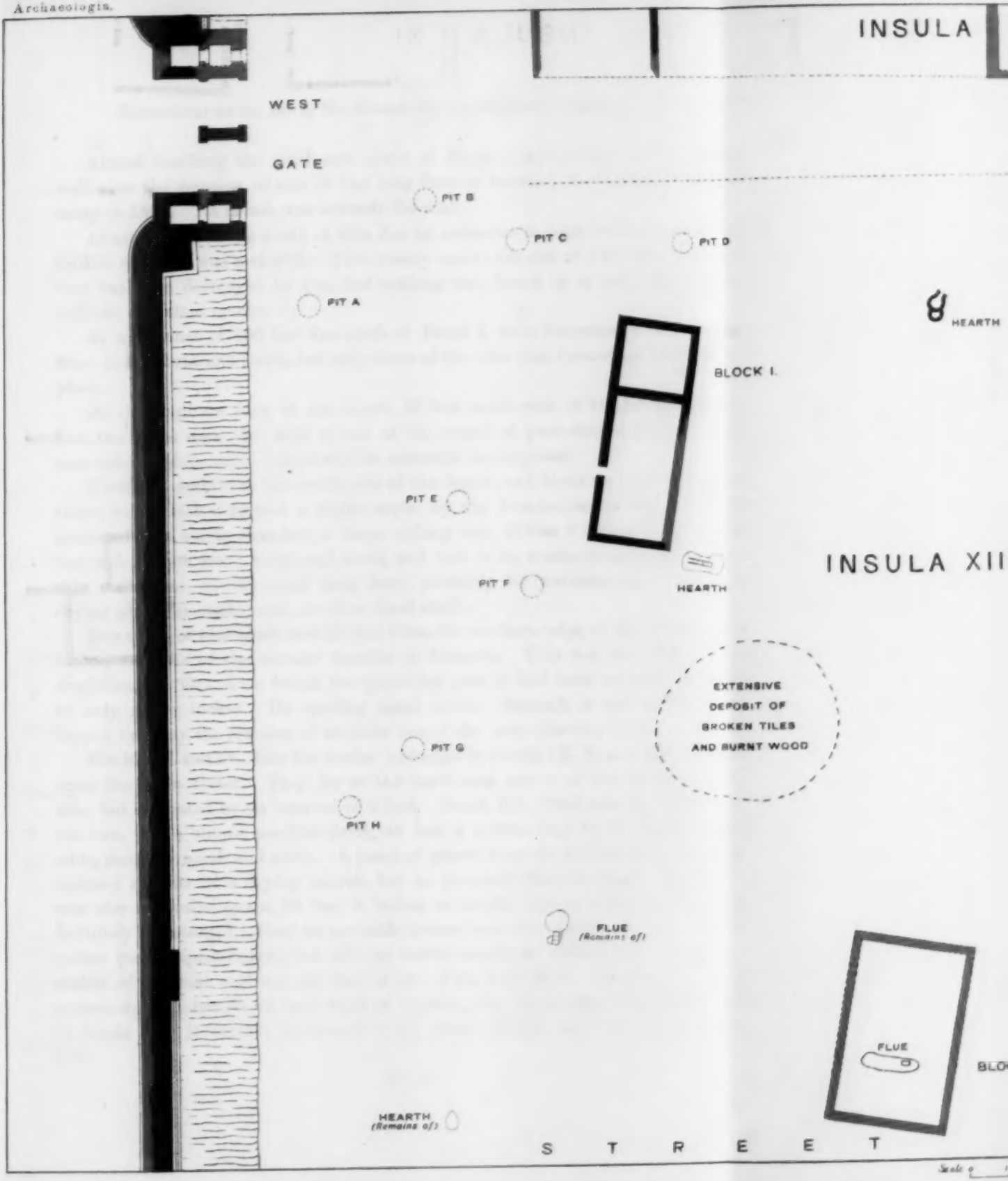
The outer facing of the wall, in the section under notice, has been everywhere removed, and the wall itself is much broken down.

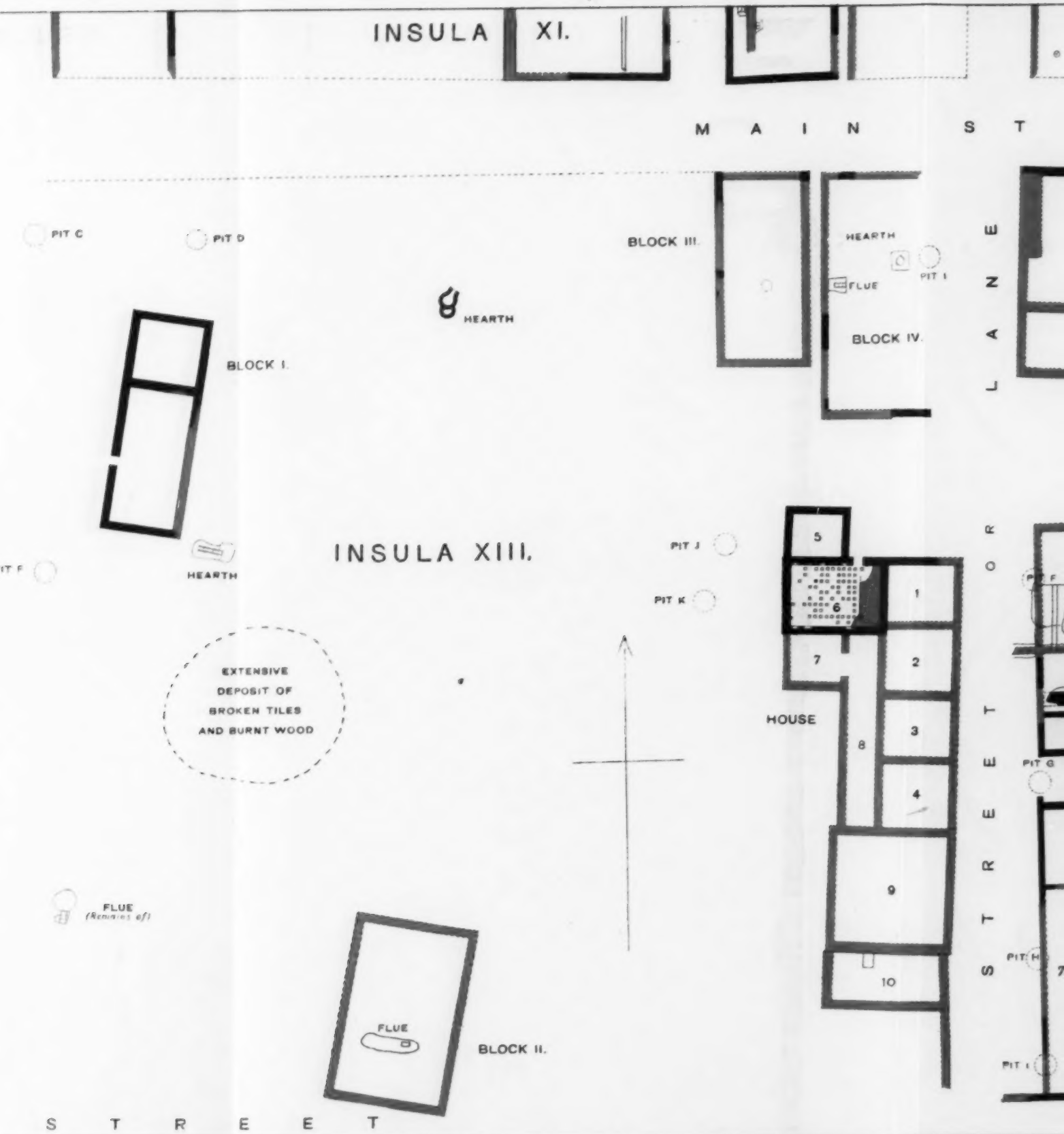
No greater contrast has yet presented itself during one season's excavation than that between the two *insulæ* examined in 1895: *Insula* XIII. being almost destitute of remains of any kind; while *Insula* XIV. is practically covered with the foundations of buildings. (See Plan, Plate X.)

Insula XIII. measured from the city wall about 330 feet in length from west to east, and nearly 240 feet from north to south, but from its length must be deducted 18 or 20 feet for the mound or bank that lines the wall. Another and wider strip at the foot of the bank would also be kept free from buildings and, perhaps, form a road or street, so that the actual length of the *insula* was probably not much more than 270 feet. It was bounded on the north, east, and south sides by streets, but, except where buildings abut upon these, there are no traces of a wall or other positive limit, and it is possible that the boundary was, for the most part, merely a wooden fence or paling.

The buildings discovered within the *insula* are only five in number. One of them was a small house, but the others were similar in character to those found in the preceding year in *Insulæ* IX. X. and XI. and were obviously used for the same purpose. In other words, *Insula* XIII., like those on the north side of the main street, was given up to the dyeing industry which we believe was carried on in this part of the town. In two of the buildings were flues or furnaces of the kind previously noted as possibly used in dyeing, and remains of four others were scattered about the *insula*.

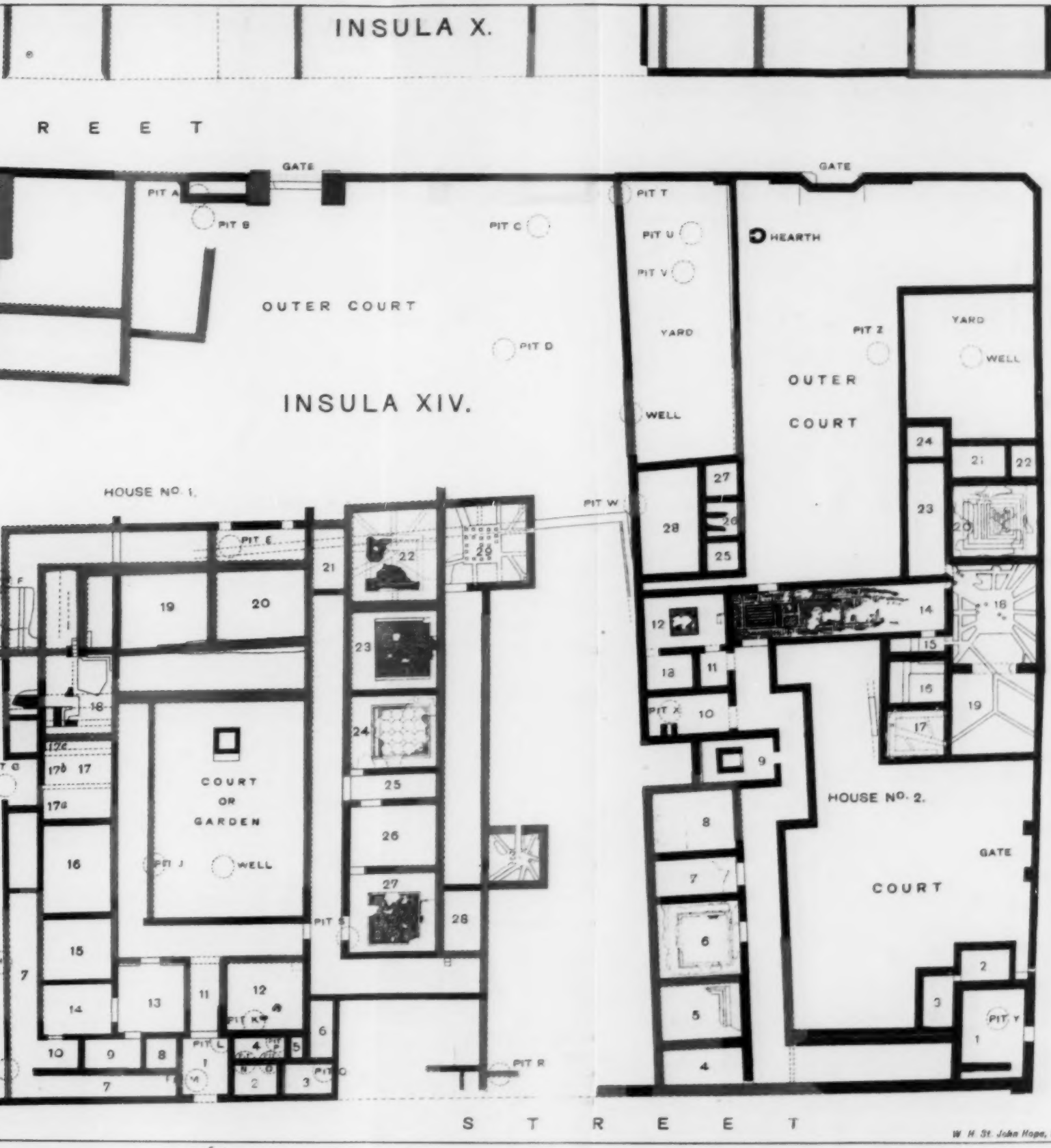
The first of the buildings (Block I.) was situated in the northern part of the western half of the *insula*, not far from the west gate of the city. It lay a little off the main street, with which it made a small angle, and was in plan a simple parallelogram, standing nearly north and south. It was divided by a cross wall into two chambers of unequal size, and had walls of flint rubble, of an average thickness of 26 inches, with tile quoins. The larger or southern chamber was 35 feet long by 17 feet wide, and had a doorway in its west wall near the middle of its length. The east wall has been almost entirely destroyed. The smaller or northern chamber measured 17 feet by 15 feet 3 inches. No remains of any kind were found in this block, except fragments of the large red tiles with which it was roofed.


INSULA
WEST
GATE
PIT B
PIT C
PIT D
PIT A
HEARTH
BLOCK I.
PIT E
INSULA XII
PIT F
HEARTH
EXTENSIVE
DEPOSIT OF
BROKEN TILES
AND BURNT WOOD
PIT G
PIT H
FLUE
(Remains of)
FLUE
HEARTH
(Remains of)
S T R E E T



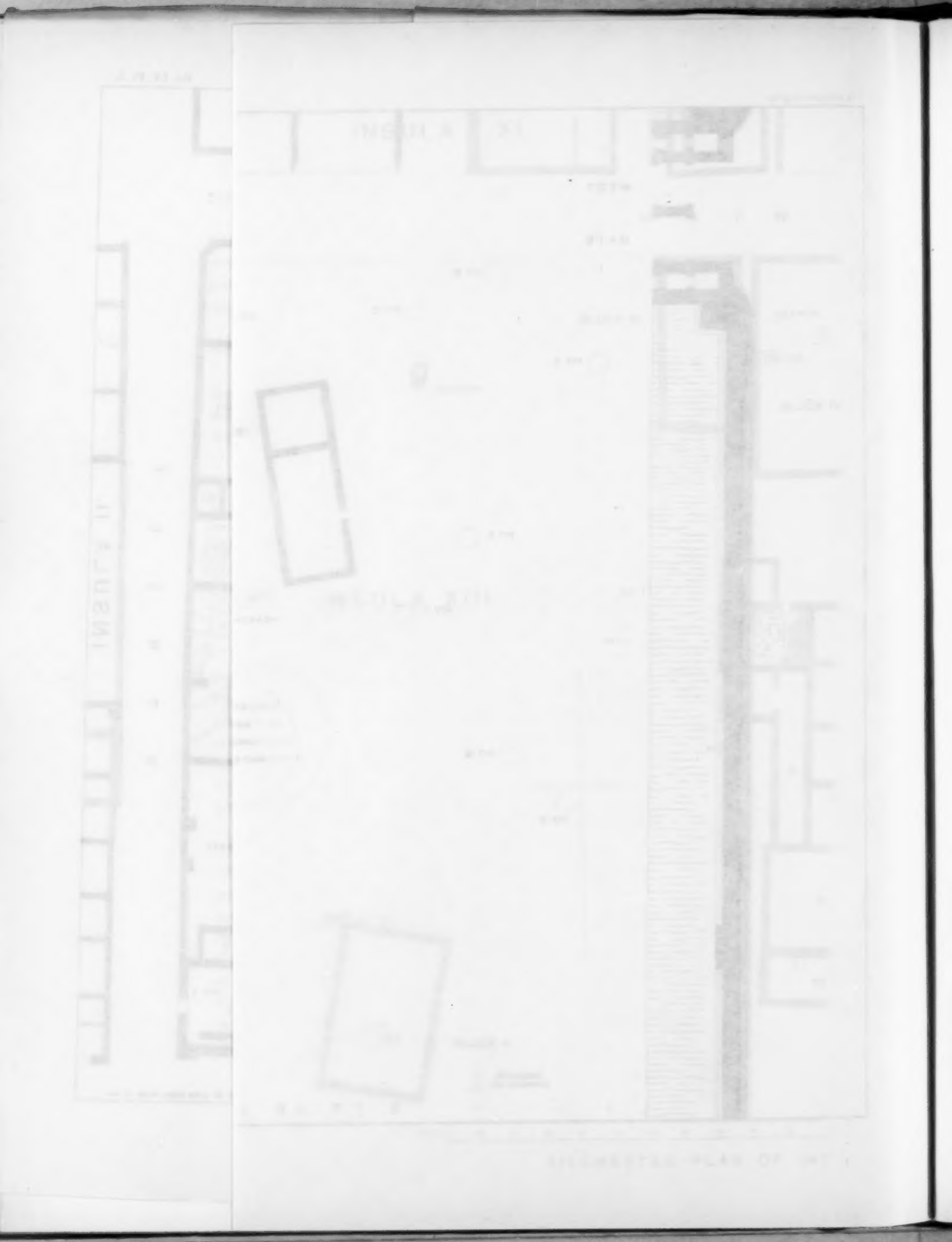
Scale 0 10 20 30 40 50 60 70 80 90 100

SILCHESTER.—PLAN OF INSULÆ XIII. AND



W. H. St. John Hope, mon

ND XIV.



Almost touching the south-east angle of Block I. and parallel with its south wall were the remains of one of the long flues or hearths, of which we found so many in 1894. Its mouth was towards the east.

About 20 feet to the south of this flue an extensive deposit of burnt wood and broken roof tiles was met with. This clearly marks the site of a wooden structure that has been destroyed by fire, but nothing was found in or near the spot to indicate its extent or use.

At a distance of 100 feet due south of Block I. were the remains of a second flue. It lay north and south, but only three of the tiles that formed its bed were in place.

On the southern edge of the *insula*, 50 feet south-west of the last-mentioned flue, the traces were met with of one of the round or pear-shaped furnaces. It was unfortunately much ruined and its materials decomposed.

About the middle of this south side of the *insula*, and abutting upon the street there, with which it formed a slight angle, lay the foundations of Block II. It consisted of a single chamber, a large oblong one, 43 feet 9 inches long by 27½ feet wide, which stood north and south, and had in its southern half, clear of the side walls, one of the usual long flues, probably for warming the room as a drying place for cloth, yarn, or other dyed stuffs.

Due north of this block and 28 feet from the northern edge of the *insula* was a second example of the circular hearths or furnaces. This was in fairly perfect condition, but like those found the preceding year it had been reduced in height to only a few inches. Its opening faced north. Beneath it and partly overlapped by it lay the remains of an older one of the same size and shape.

Blocks III. and IV., like the similar buildings in *Insulæ* IX. X. and XI., abutted upon the main street. They lay at the north-east corner of the *insula*, side by side, but separated by an interval of 3 feet. Block III., which was the western of the two, was a simple parallelogram, 46 feet 4 inches long by 20 feet 6 inches wide, standing north and south. A patch of gravel near the middle of its area may indicate the site of a drying hearth, but no traces of this remained. Block IV. was also a parallelogram, 59 feet 6 inches in length, but its width could not be definitely ascertained. Near its probable centre were the remains of a circular or rather pear-shaped hearth, but with no visible mouth or outlet, and against the middle of the west wall was the base of one of the long flues. In this respect, of containing an example of each kind of furnace, this block resembles Block III. in *Insula* XI. It further contained a pit, which perhaps was used as a water-hole.

Immediately to the south of and at a distance of 23 feet from Block IV. were the foundations of the one house that stood within *Insula* XIII. It was of the corridor type, and extended for 116 feet along the street or lane that divided the two *insulæ* under notice.

Its plan shows a row of four good sized rooms (1—4) along the street front, with a corridor (5) and other rooms (6 and 7) behind, and at the south end a large enclosure (9) about 29 feet square, with a narrower addition (10) on its south side. The four front rooms were nearly of a size, with a uniform length of 17 feet 9 inches and an average width of 15 feet, but only their foundations could be traced. Behind the northernmost (1) was a large room (6) 23 feet long by 15 feet 9 inches wide. It was warmed by a hypocaust, which extended under all the floor, except a strip 4 feet 6 inches wide across the east end. The floor itself has been utterly destroyed, but the remains of the *pilæ*, which were built of tiles 8 inches square, shew that they were arranged in ten rows in one direction, and twelve in the other. The stoke-hole was on the north side. The positions of the wall flues indicate that this room had two doorways on the south side, and perhaps another, or a wide opening, in the east wall, but none on the north or west. Of the two doorways in the south wall, the eastern communicated with the corridor; the other opened from or into a smaller room (7), which also had a wide doorway or entrance 6 feet wide between it and the corridor. Another small chamber (5) adjoined the large room on the north, but as there was no doorway of communication between them, it probably served as the wood house for supplying the hypocaust. The corridor itself was nearly $7\frac{1}{2}$ feet wide and 50 feet long. At its north end a few drab stone *tesseræ* of the flooring were found in place. The large enclosure (9) at the opposite end of the corridor was probably a yard, but nothing of it remained save the gravel foundations of its walls. It measured $29\frac{1}{2}$ feet in length by $27\frac{1}{3}$ feet in width. Adjoining it on the south was a narrower enclosure, or perhaps a shed, $28\frac{1}{2}$ feet long and 12 feet 3 inches wide. Against the north wall of this, and near its west end, lay a block of ironstone $3\frac{1}{2}$ feet long and 2 feet 9 inches wide.

From the large quantity of broken pieces found in and about the house, it is evident that it was roofed with the usual thin hexagonal stone slabs or slates. Of the floors no traces remained, except the fragment at the north end of the corridor.[a]

[a] The actual dimensions of the rooms in this house are as follows: (1—4) each 17 feet 9 inches in length, by 14 feet 8 inches, 15 feet 9 inches, 14 feet 6 inches, and 16 feet 3 inches in width, respectively; (5) 13 feet by 11 feet; (6) 23 feet by 15 feet 9 inches; (7) 13 feet 3 inches by 12 feet

In plan this building closely resembles House No. 2, *Insula* II.,[a] and it was also nearly the same size. If our conjecture be right that the small chamber (5) was the wood house, and that the large southern enclosure (9) and its annexe (10) were merely yards, it will be seen that the main part of the building formed a compact little house. One or more of the rooms lining the street may have been used as shops, but as the street itself was only a minor one this is hardly likely.

That the house had an upper story there cannot be much doubt. The stair to this probably stood against the north wall of the chamber (7) south of the winter room (that warmed by the hypocaust), where there is space for it as well as for the door into the winter room itself. It was perhaps to accommodate such a stair that the wide opening from the corridor was placed more to one side than the other of the chamber.

Before leaving *Insula* XIII. it may be remarked that practically no objects of interest were found in it, and the singularly few rubbish pits met with were equally barren of results when cleared out. It is not improbable on this account that these pits had been used as water holes.

Insula XIV. measured 270 feet from west to east, and 236 feet from north to south, and was bounded on all its four sides by streets. On the north was the main street of the city, which was nearly 25 feet wide; the streets on the east and west were about 19 feet wide; that on the south has not yet been traced. The street boundaries are clearly marked in nearly every part by walls or buildings.

In complete contrast to the large amount of open ground in the first described *insula*, *Insula* XIV. was almost entirely covered with the foundations of two large and important houses. The possibility of their discovery had been foreshadowed in 1894, when the uncovering of the foundation of the boundary wall on the north side of the *insula* revealed the bases of the two gateways that opened into the courtyards of the houses.

A wall running from north to south divided the *insula* into two unequal parts. In the larger or western half, which took up three-fifths of the *insula*, were the foundations of House No. 1. They occupied the south-west corner of the *insula*, and extended northwards from the street on the south for 148 feet. The main width of the house was 126 feet, but two chambers projected further eastwards 11½ and 15 feet respectively.

1½ inch; (8) 49 feet 3 inches long by 7 feet 6 inches wide; (9) 29 feet 6 inches by 27 feet 6 inches; (10) 28 feet 6 inches by 12 feet 3 inches. The remaining walls were 2 feet thick.

[a] *Archaeologia*, liii. 276, pl. xxiii.

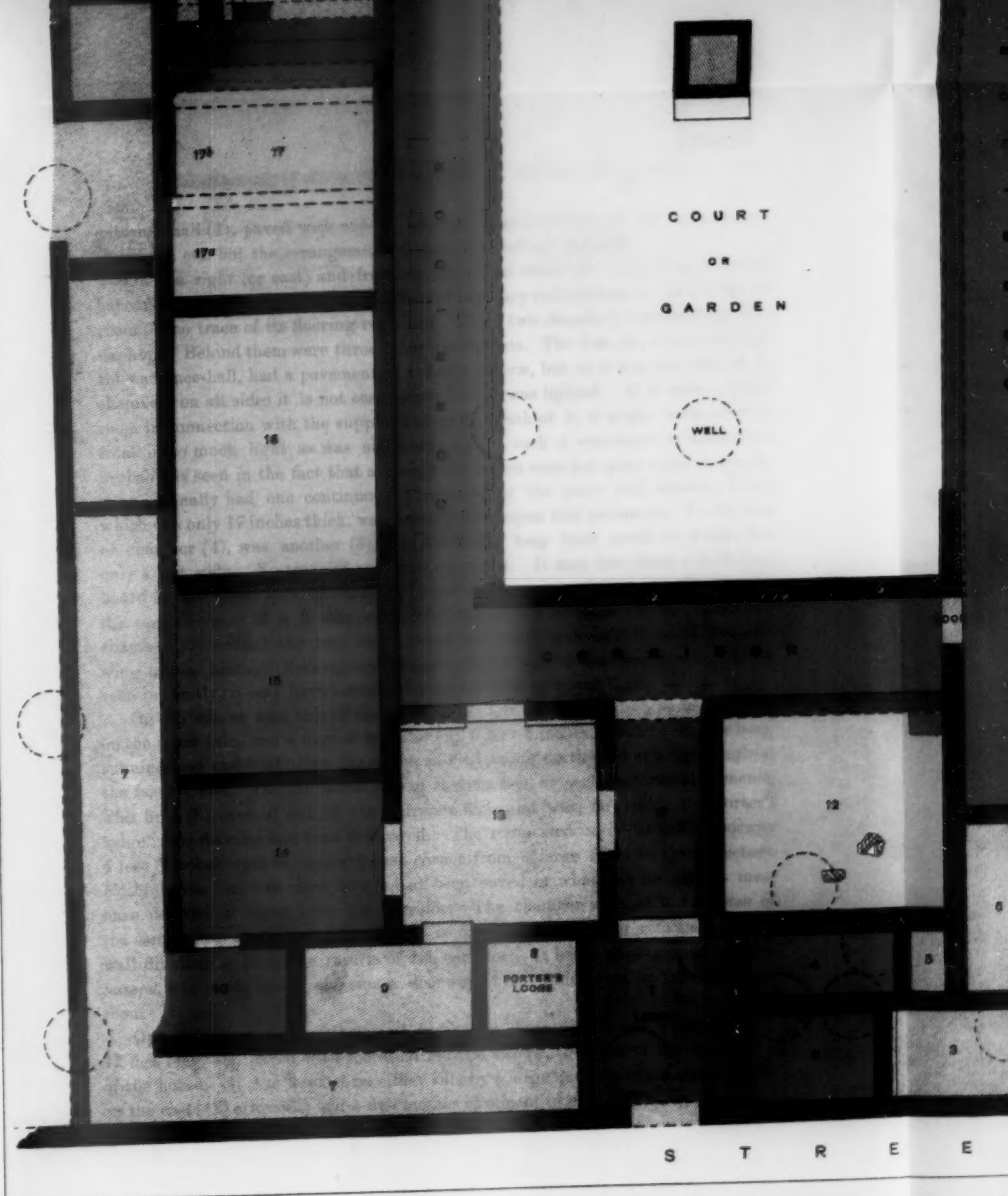
The space north of the house, between it and the main street, seems to have formed a large courtyard about 85 feet wide, and until it was encroached upon by buildings nearly 160 feet long. The boundary wall on the north was 2 feet in thickness, and had nearly in the middle of its length an important entrance gateway, 13 feet 6 inches wide. On either side of the opening, and extending inwards into the *insula*, was a strong and massive foundation 6 feet wide and 8 feet long. These must have supported an architectural composition of some kind, for such bases would hardly have been provided for mere gate-posts.

In the angle formed by the western foundation and the boundary wall was uncovered a slightly sunk area 15 feet long and 3 feet 3 inches wide, with side walls 2 feet thick, built of flints and courses of tiles. The bottom was a little below the level of the street. It had clearly been lined throughout with cement, most of which had been destroyed. From its position this was not improbably a tank or trough for watering horses. Just to the west of it, and occupying the north-west corner of the courtyard, were the foundations of a building, about 50 feet long and 32 feet wide, divided by a cross-wall into two unequal parts. The larger portion, which was square, was probably a stable. Outside on the east were the enclosing walls of a small yard. Two pits were found underlying the watering tank, and there were two others in the eastern part of the court, but none of them yielded anything of interest.

On the east side of the house was a strip of ground about 40 feet wide, between it and the party wall of House No. 2. It seems to have served for menial purposes only, for the stokehole of the southern of two chambers that here projected from the range, beneath each of which was a hypocaust, opened into it. The stokehole of the northern chamber was on its north side, but it seems also to have had a soot-door, or some such opening on the east.

The plan of the house (Plate XI.) belongs to what we have called the "courtyard type," that is, having a central court or area round which the various corridors and chambers are disposed, but it differs from that of any other house yet uncovered at Silchester in having the central area surrounded by chambers on all four sides, instead of having one side open or closed by a wall only.

The apparently once imposing gateway from the main street on the north would suggest that the principal entrance of the house was on that side. This part has, however, been rebuilt, and the foundations of the later work do not indicate any such entrance. On the contrary, the chief doorway was at the opposite end of the house, in the middle of the wing that there abutted upon the street. It was 6 feet in width, and opened directly into a spacious lobby or



SILCHESTER.—PLAN OF HOUSE No. 1, IN

on the site of the Roman city at Silchester, Hants, in 1895.

h of the house, between it and the main street, seems to have rtyard about 85 feet wide, and until it was encroached upon by 90 feet long. The boundary wall on the north was 2 feet in l nearly in the middle of its length an important entrance 5 inches wide. On either side of the opening, and extending *nula*, was a strong and massive foundation 6 feet wide and 8 feet have supported an architectural composition of some kind, for ardly have been provided for mere gate-posts.

ormed by the western foundation and the boundary wall was ly sunk area 15 feet long and 3 feet 3 inches wide, with side built of flints and courses of tiles. The bottom was a little he street. It had clearly been lined throughout with cement, been destroyed. From its position this was not improbably a watering horses. Just to the west of it, and occupying the of the courtyard, were the foundations of a building, about 2 feet wide, divided by a cross-wall into two unequal parts. , which was square, was probably a stable. Outside on the ing walls of a small yard. Two pits were found underlying the there were two others in the eastern part of the court, but d anything of interest.

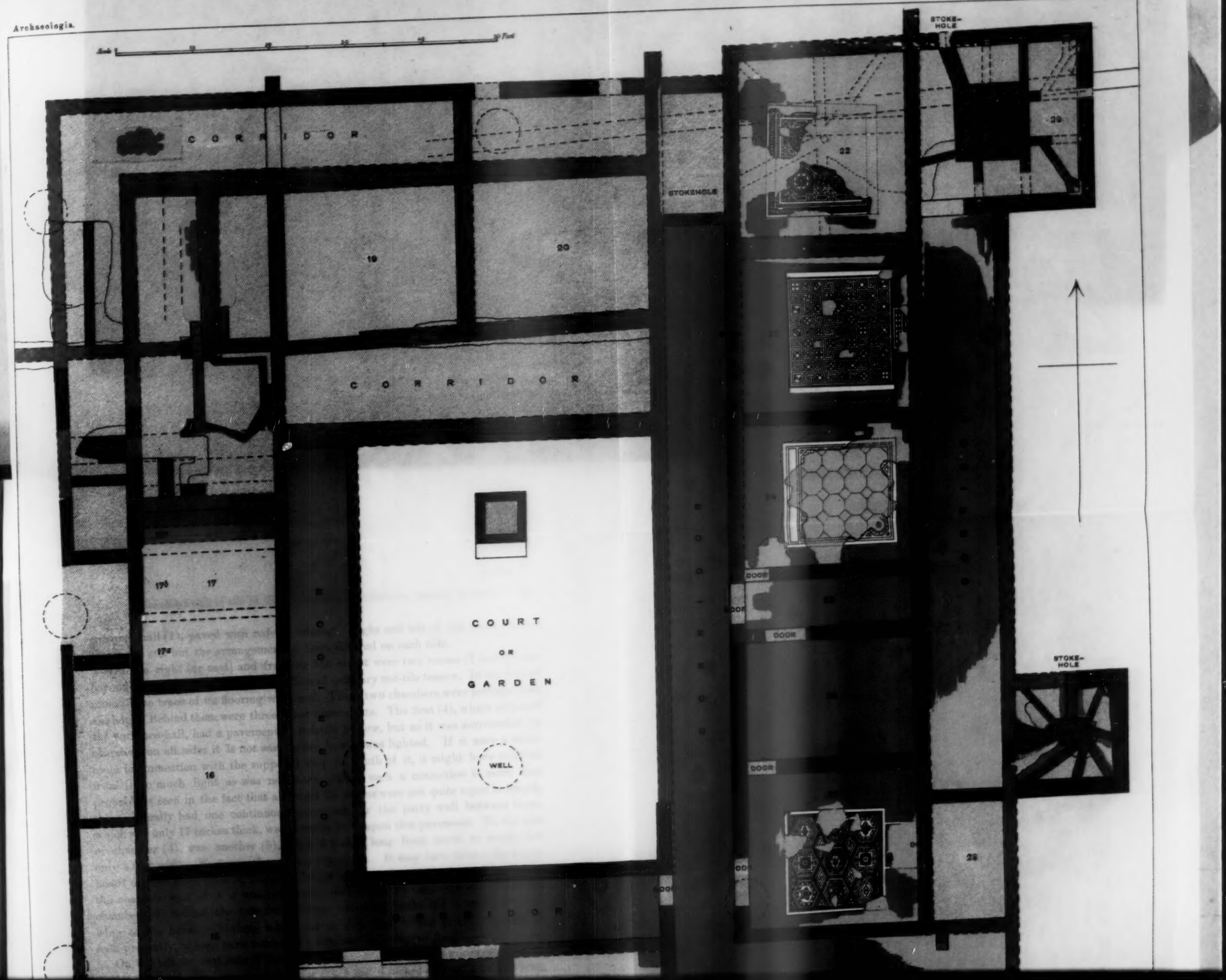
of the house was a strip of ground about 40 feet wide, between wall of House No. 2. It seems to have served for menial the stokehole of the southern of two chambers that here range, beneath each of which was a hypocaust, opened into it. e northern chamber was on its north side, but it seems also to r, or some such opening on the east.

house (Plate XI.) belongs to what we have called the "court- s, having a central court or area round which the various bers are disposed, but it differs from that of any other house Silchester in having the central area surrounded by chambers stead of having one side open or closed by a wall only.

once imposing gateway from the main street on the north the principal entrance of the house was on that side. This been rebuilt, and the foundations of the later work do not entrance. On the contrary, the chief doorway was at the house, in the middle of the wing that there abutted upon the eet in width, and opened directly into a spacious lobby or



SILCHESTER.—PLAN OF HOUSE No. 1, INSULA XIV.



site of the Roman city at Silchester, Hants, in 1895.

he house, between it and the main street, seems to have
about 85 feet wide, and until it was encroached upon by
t long. The boundary wall on the north was 2 feet in
rly in the middle of its length an important entrance
os wide. On either side of the opening, and extending
vas a strong and massive foundation 6 feet wide and 8 feet
supported an architectural composition of some kind, for
have been provided for mere gate-posts.
by the western foundation and the boundary wall was
k area 15 feet long and 3 feet 3 inches wide, with side
of flints and courses of tiles. The bottom was a little
vet. It had clearly been lined throughout with cement,
destroyed. From its position this was not improbably a
ing horses. Just to the west of it, and occupying the
e courtyard, were the foundations of a building, about
t wide, divided by a cross-wall into two unequal parts.
ch was square, was probably a stable. Outside on the
alls of a small yard. Two pits were found underlying the
e were two others in the eastern part of the court, but
thing of interest.
e house was a strip of ground about 40 feet wide, between

SILCHESTER—PLAN OF HOUS

entrance hall (1), paved with red-tile *tesseræ*. Right and left of this were various chambers, etc. but the arrangement of them differed on each side.

On the right (or east) and fronting the street were two rooms (2 and 3), one beyond the other. The first (2) had a floor of ordinary red-tile *tesseræ*. In the second room (3) no trace of its flooring remained. These two chambers were perhaps used as shops. Behind them were three other apartments. The first (4), which adjoined the entrance-hall, had a pavement of red-tile *tesseræ*, but as it was surrounded by chambers on all sides it is not easy to see how it was lighted. If it were a store-room in connection with the supposed shop (2) south of it, it might have received from it so much light as was necessary. That such a connexion is more than probable is seen in the fact that although the rooms were not quite equal in length, they originally had one continuous pavement, for the party wall between them, which was only 17 inches thick, was actually built upon this pavement. To the east of chamber (4), was another (5), 5 feet 3 inches long from north to south, but only 3 feet wide. No trace of any floor remained. It may have been a dark cupboard or storeplace opening from the larger room or shop (3) in front of it, for like the chamber west of it it was completely surrounded by other rooms. The third chamber (6) behind the two front rooms extended backward towards the east wing of the house. Nothing was found to show how it was paved. As will be seen presently, it may have contained a staircase to an upper floor.

On the left, or west side of the entrance-hall, instead of the two rooms or shops on the other side, was a narrow corridor (7), 5 feet 4 inches wide and 43 feet long, running east and west along the street, and returning northward at a right angle at the farther end. On the north side of it were two, or perhaps three apartments. The first (8) opened out of the entrance-hall, and was, no doubt, the porter's lodge. Its flooring had been destroyed. The room next to it (9) had a doorway 4 feet 3 inches wide in its north-east corner from a large room in that direction. Nothing was found to show how it had been paved or what was its use; it must have derived its light from the corridor. The chamber west of it (10) was of the same width as No. 9, but its length is uncertain, as nothing remained of any wall dividing it from the return of the corridor. It had a pavement of red-tile *tesseræ*, and in its north wall was a doorway, 4 feet wide, from or into the next room.

Opening directly out of the north end of the entrance-hall was a passage (11), 17 feet long, and paved with the usual red-tile *tesseræ*, that led to the inner part of the house. It was flanked on either side by a large and important room. That on the east (12) originally had a fine mosaic pavement of elaborate design and con-

siderable proportions, within a border of coarse red-tile *tesseræ*. Unfortunately, almost the whole had been destroyed, and only a few fragments of the braided or plaited bands that divided the panels remained in place. The corresponding chamber (13), on the west of the passage, had doors in each of its sides: on the east, from the passage; on the south, into one of the rooms there; a west one, over 6 feet wide, into a large chamber in that direction; and one on the north, communicating with the inner corridor there. This last doorway was 5 feet 3 inches in width. The pavement of the room had entirely disappeared.

The passage from the entrance hall opened at its north end by its full width into the inner corridor of the house, which extended along the south, west, and north sides of the courtyard or garden that occupied the centre of the mansion. The first section of this corridor was 8 feet 3 inches in width and 48 feet in length, and paved throughout with the ordinary red-tile 1-inch *tesseræ*. Its eastern end was closed by a wall, through which a doorway led into another corridor of considerable length, running north and south, that traversed the east or fourth side of the courtyard. At its west end a second section of the corridor returned northwards for 65 feet, but with a reduced width of 7 feet 10 inches, as far as the gravel foundation of the wall that crossed the north end of the courtyard. This foundation was 3 feet in breadth, and had to the north of it a third section of the corridor, 48 feet long and between 9 and 10 feet wide. A slight prolongation of the north wall of the first section of the ambulatory at its western angle may indicate that it was closed there by a partition.

Behind the second section of the ambulatory, and overlapping it on the north and south, was the west wing of the house. The southern half of this contained four large chambers. The first of them (14) was paved with red-tile *tesseræ*. It communicated with chambers (13) on the east and (10) on the south, and probably with the corridor (7) on the west of it. The next chamber north (15) was also paved with the ordinary red *tesseræ;* it no doubt had a door from the ambulatory on the east. As they had doorways between them it is possible that chambers 9, 10, 13, and 14 formed one suite of apartments. The third chamber (16) was of considerable size, measuring $17\frac{1}{2}$ feet from east to west and 22 feet $4\frac{1}{2}$ inches from north to south. It was paved with red *opus signinum*, and no doubt was entered from the main corridor. The wall on this side was, however, reduced to the floor level, and there shewed the mortar bed of a band of tiles. The fourth chamber (17) was also a large one. It had a doorway from the ambulatory in its south-east corner, and was paved throughout with red-tile *tesseræ*. North of this apartment the rest of the wing has been so altered and afterwards so ruined that

it is impossible to make out anything definite as to its arrangements. The alteration actually began with chamber 17, which occupies the site of two older rooms (17a and 17b), and of part of a passage (17c) north of them. The passage was 6 feet in width and paved with red *tesseræ*, the level of which was 6 inches below that of chamber 17, and apparently of that of the two earlier rooms. To meet this difference of level, the floor of the corridor outside seems to have gradually sloped from south to north. The new north wall of the later apartment, which was 2 feet thick, traversed the central line of the passage, and so put an end to its original use as a way through the wing of the house.

On the north side of the later wall another large chamber (18), of the same size as (17), appears to have taken the place of the earlier arrangement there. It seems to have been warmed by a hypocaust, which apparently had a cruciform central flue laid with large red tiles, and narrower flues running round the side walls. The intervening blocks that carried the floor were largely composed of chalk, and plastered. The remainder of the wing contained traces of other flues, but all was too ruined to be made out satisfactorily.

The return of the little corridor on the south front of the mansion originally traversed the whole of the west side of the west wing; but, as in other houses at Silchester, it was divided into sections by thin partitions at intervals, and at a later date further subdivided and converted into rooms and offices. To what use these were put it would be hazardous to guess. One at the upper extremity contained the base of a flue about 14 feet long.

The corridor was returned eastwards along the north front of the house, and retained in one place traces of a floor of red tiles. Between it and the ambulatory traversing the north end of the inner courtyard was the north wing of the mansion. This appears to have contained two rooms only (19 and 20), but they were of considerable size, being each about 23 feet long and 18 feet wide. Unfortunately nothing remained of them but the gravel foundations of the walls. The corridor south of them was in the same condition.

The inner courtyard measured 55 feet from north to south, and 38½ feet from east to west. The trenches driven across it in various directions revealed two features of interest.

The first of these was a well about 21 feet deep, sunk in the southern part of the court. Traces of the wood lining[a] remained, but nothing important was discovered in it.

[a] Many of the pieces of wood found in the wells and pits at Silchester are found, after removal,

In the northern part of the court, at 6½ feet from its north wall, were revealed the foundations of a small building 6½ feet square, with flint rubble walls 13 inches thick. It stood with its sides parallel to those of the courtyard, but was not placed quite centrally, there being an interval of 15 feet 3 inches west of it, and of 17 feet on the east. Against the south wall was apparently a step 1 foot 10½ inches wide, made of flints. Possibly these are the remains of a small *lararium* or shrine for the household gods, the walls being carried up solid to support the slab or platform upon which stood the little covered shrine of the *lares*. To the consideration, however, of this question we shall revert in discussing a similar construction in the other house.

The most important part of the mansion, as will be seen from the plan (Plate XI.), was the eastern wing. It is of especial interest, not only from the size of the rooms, but on account of the large and handsome mosaic pavements that were found in four of them. It was about 128 feet long and 47½ feet wide, and consisted of a central row of chambers placed between two corridors, the western of which was returned across the south end. The western corridor has been described already as forming the eastern ambulatory of the central cloister or courtyard. It was a little over 100 feet in length and from 7¾ to 8 feet in width, and was paved throughout with red-tile *tesseræ*. Originally it was perhaps longer, and had in its northern end a door towards the main street, for about 17 feet seems to have been cut off to form a stokehole or furnace room (21) for a hypocaust beneath the northernmost chamber.

to bear in parts an incrustation or deposit of a bright blue colour. This has been identified by Professor Church, F.R.S., F.S.A., as the mineral vivianite, and he has obligingly communicated the following note on a specimen found in 1894:

"I have examined the blue substance from the remains of the iron-bound wooden bucket found at Silchester. It proves to be, as I suspected, the mineral vivianite, a hydrous ferrous phosphate, which if pure would contain the following percentages:

Phosphorus pentoxide	28·3
Iron protoxide	43·0
Water	28·7

Its formula is $Fe_3 P_2 O_8, 8 H_2O$. Under the microscope the earthy look of the compound is replaced by a distinctly crystalline appearance, indeed the substance is seen to be made up of felted crystals, oblique prisms. The occurrence of vivianite has been noted in peat bogs in Shetland and Isle of Man, accompanying sometimes the horns of the elk and deer. Dana says the mineral has been found 'near an old slaughter-house in Edinburgh.'"

An extensive deposit of vivianite seems to have occurred throughout a barrow known as Roylow, in Derbyshire, which was opened in 1894. See *Proceedings*, 2nd S. xv. 426.



Scale of

SILCHESTER.—MOSAIC PAVEMENT F



George E. Fox, delt. 1896

1 2 3 feet

T FROM HOUSE No. 1, INSULA XIV.

This apartment (22) was the largest in the mansion, and measured 22½ feet in width by over 23 feet in length. It was paved with ordinary red-tile *tesseræ*, with a central panel 15 feet square of finer mosaic in white, black, red, and yellow. (Plate XII.)

The design was composed of geometrical figures formed by lines of black *tesseræ* on a white ground, the main divisions of which consisted of five large octagonal panels enclosing circles of braid-work of varying colours. Each circle contained a coloured rosette. Four of the octagonal panels were joined to the fifth, which occupied the centre of the pavement, and were further connected by small square panels, each containing a knot of braidwork with spiral attachments set within a square. Outside the large panels was a narrow enclosing border of panels of braidwork, which was interrupted at the angles and in the centre of each side by hollow quarter-octagons and half-octagons formed of black and white lozenges. The whole design was enclosed by a border of white, of black and white indented, and a broad plaited band.

This fine pavement[a] was unfortunately much damaged, the north-east half being completely destroyed. What remained of it was so perfect as to justify, in our opinion, its removal. It was then ascertained that beneath it lay a hypocaust, and it was through the partial destruction of this for the sake of its material that so much of the pavement had been broken up. The hypocaust had a very small central chamber from which five channels radiated to the wall-flues. It was worked from a sixth channel, the opening of which was in the stokehole (21), already mentioned, at the north end of the eastern corridor. The hypocaust was built upon the *opus signinum* floor of an earlier one, belonging to a smaller room, which was only 13 feet wide from north to south.

The door or doors of chamber 22 were clearly in the south wall, and it was lighted by windows in the opposite wall. Outside it on the north was found a thick bed of rubbish, consisting chiefly of wall plaster, which had evidently been removed from it when the hypocaust was broken into. Enough fragments of the

[a] The construction of this pavement was as follows: (1) a bed of coarse yellow mortar, 8 inches thick, the upper surface of this was represented over the channels of the underlying hypocaust by the top of a bridging tile, 1½ inch thick, resting upon other tiles at each side, with mortar joints 1 inch thick; (2) a bed of white concrete, 3 inches thick; (3) red cement, 1½ inch thick; (4) fine *tesseræ* embedded in pink cement, with a united thickness of 1½ inch. The thickness of the floor over the hypocaust channels was 7½ inches. The furnace channel was arched over for most of its length by six overlapping layers of tiles, with a seventh across the top. From the floor of the hypocaust to the under side of the bridging tiles was 3 feet 2 inches.

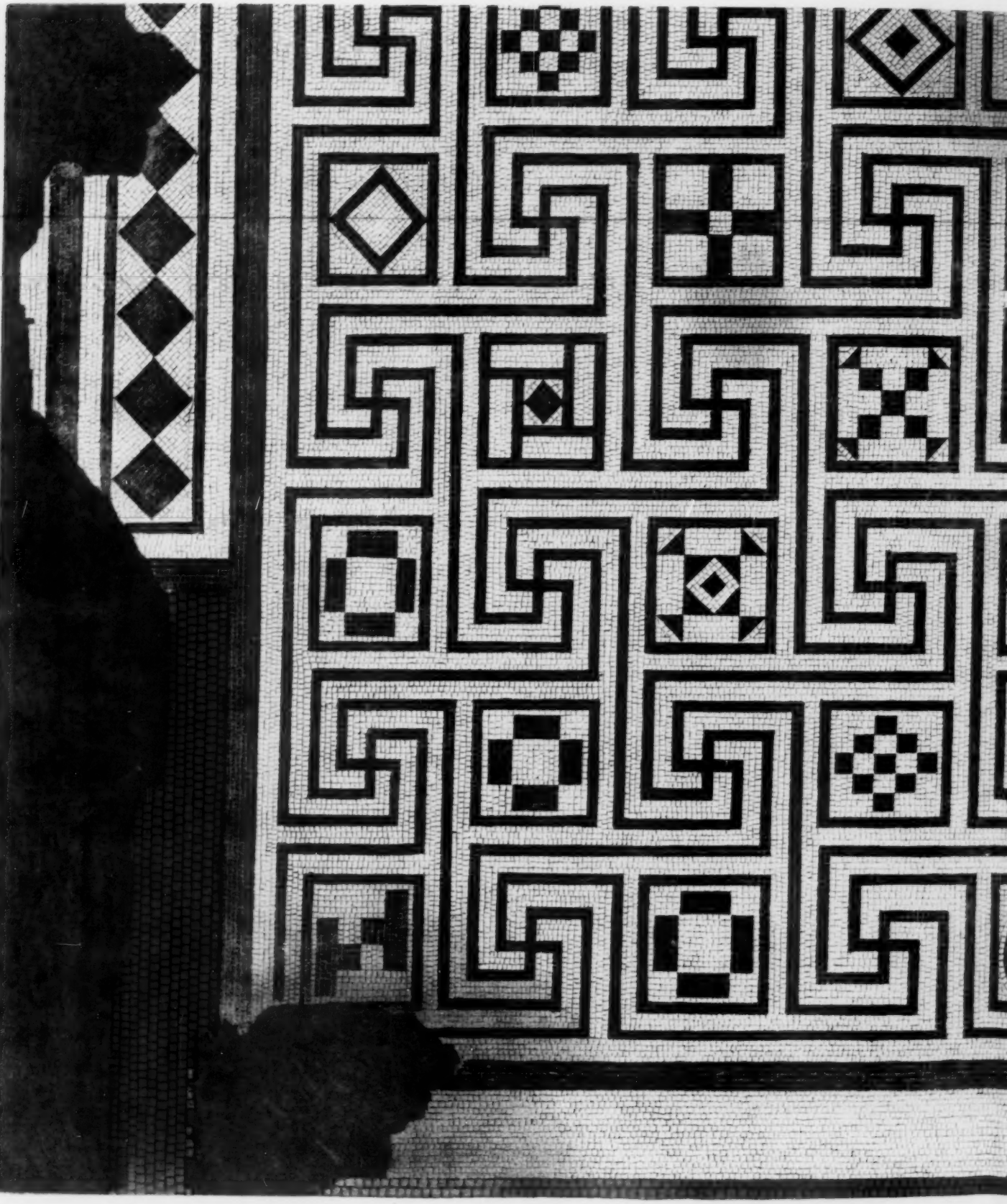
plaster were found to enable the design of part of the painted wall decoration to be made out. To the consideration of this we shall return later.

The next apartment southwards (23) measured 20 feet from north to south, and 22½ feet from east to west. It was paved with the usual tile *tesseræ* with a central panel of finer mosaic, 16 feet by 14½ feet, entirely of black and white *tesseræ*. (Plate XIII.) The design was a diaper of black lines on a white ground, disposed in eighty-one compartments, formed alternately of interlacing frets and small square panels enclosing various geometrical figures, triangles, squares, etc. Adjoining the middle of the east side was an additional panel, 6 feet long, with a row of large black squares set diamondwise on a white ground. This panel clearly indicates the position of an opening or doorway from the external corridor. When uncovered this pavement was in almost perfect condition, but it had sustained damage in two places while the house was yet inhabited. The first of these is in the centre of the pavement, and has been rudely restored with mosaic of the same character as the rest of the floor. The whiteness of the new *tesseræ* is in marked contrast to the smoke-stained appearance of the surrounding older portions, and it is probable, as was pointed out by Mr. Herbert Jones, that the damage was due to the long continued presence of a brazier standing on this part of the pavement, the heat from which had gradually destroyed the *tesseræ* beneath it. Not far from this repair two large oblong tiles and parts of another had been inserted in the floor to make good another breach in the *tesseræ*. The north-east corner of the pavement had also been greatly damaged by the action of fire; but not, probably, from the same cause that led to the centre being repaired. Like the pavement already described this one has been taken up for future preservation.[a] Against the middle of the west wall of the apartment the floor had been repaired by the insertion of some fragments of tiles. This probably indicates the existence of a doorway here from the corridor.

The next chamber (24) was 22½ feet from east to west and 18 feet 4½ inches from north to south. It was paved with tile *tesseræ* with a large central panel of fine mosaic, measuring about 15 feet by 14 feet.[b] This had unfortunately been

[a] The construction of this pavement is as follows: (1) 1 inch of pink cement with *tesseræ* set in it; (2) 3½ inches of drab-coloured cement or mortar; (3) 3 inches of white cement containing small pebbles; (4) 5 inches of loose gravel, beneath which was (5) a bed of mortar 1 inch thick.

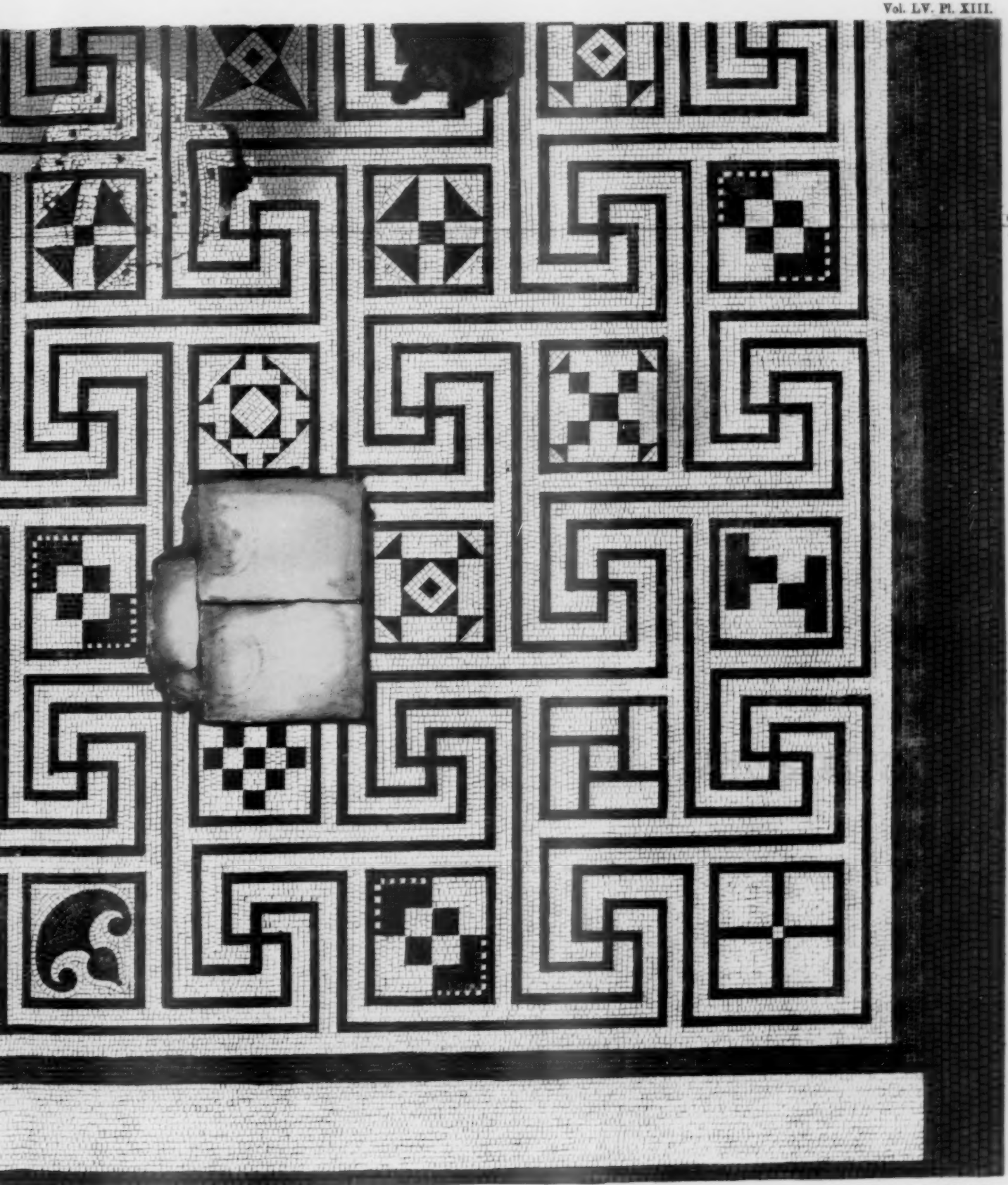
[b] This pavement was laid as follows: (1) 1 inch of pink cement with *tesseræ* set in it; (2) 2½ inches of white mortar or cement; (3) 4½ inches of hard gravelly concrete; (4) a layer of burnt clay 1½ inch thick; (5) 7½ inches of mould or earth; (6) ½ inch of chalk; and (7) 1½ inch of yellow mortar, very irregular.



Centre line

Scale of

SILCHESTER.—MOSAIC PAVEMENT



Centre line

George E. Fox, delt. 1895

1 2 3 feet

ENT FROM HOUSE No. 1, INSULA XIV.

almost entirely destroyed, and only enough was left to show that the design was made up of sixteen octagonal panels with braided borders, set in a white ground, with a long and narrow white panel on the western side. There were strong signs of burning on the eastern side about both angles. There was probably a doorway into the room from the corridor in the east wall. In the south wall at its west end another doorway communicated with a passage joining the two main corridors.

This passage (25) was 6 feet 3 inches wide and paved with red *tesseræ*, which had been extensively but rudely repaired down the centre with large oblong tiles.

In the south wall of the passage a doorway, 5½ feet wide, opened into the fourth of the large chambers in this wing (26). This was of the same dimensions as the others from east to west, viz. 22½ feet, and 15 feet 4 inches wide.

It was paved throughout with the usual red-tile *tesseræ*, which were laid with considerable care,[a] as indeed were all the pavements of this class in the mansion. Towards the western side, especially in the middle and in the north-west corner, the *tesseræ* were strangely shivered and splintered, although remaining in place, and on this account a large patch of new *tesseræ* had been inserted against the wall, just where we should expect a doorway. The wall here had, however, been too broken down to show if there were a door. In the south-west corner a doorway 4 feet wide led into the last chamber of the range.

This apartment (27) was of large size, measuring 22½ feet by 20 feet 1½ inch. It had a second doorway, 6 feet wide, from the corridor on the west. The floor was of the usual coarse red-tile *tesseræ* with a central panel of finer mosaic 14 feet square (Plate XIV.), which was in very fair condition; it was therefore carefully taken up for preservation.[b] Like the rest, it had a white ground, and was divided into nine large hexagonal compartments by bands of simple braid work or guilloche with intermediate lozenges containing a fret of black lines. The three central compartments from north to south were richer in design than the others, and had each a small panel in the middle surrounded by a band of leafwork. In the central

[a] The construction of this floor was as follows: (1) red *tesseræ*, 1 inch thick, set in ½ inch of pink mortar; (2) 3 to 4 inches of white cement; (3) 11 inches of gravel and builder's rubbish; (4) a bed of hard yellow mortar 5 inches thick. The whole rested on earth containing layers of clay and gravel.

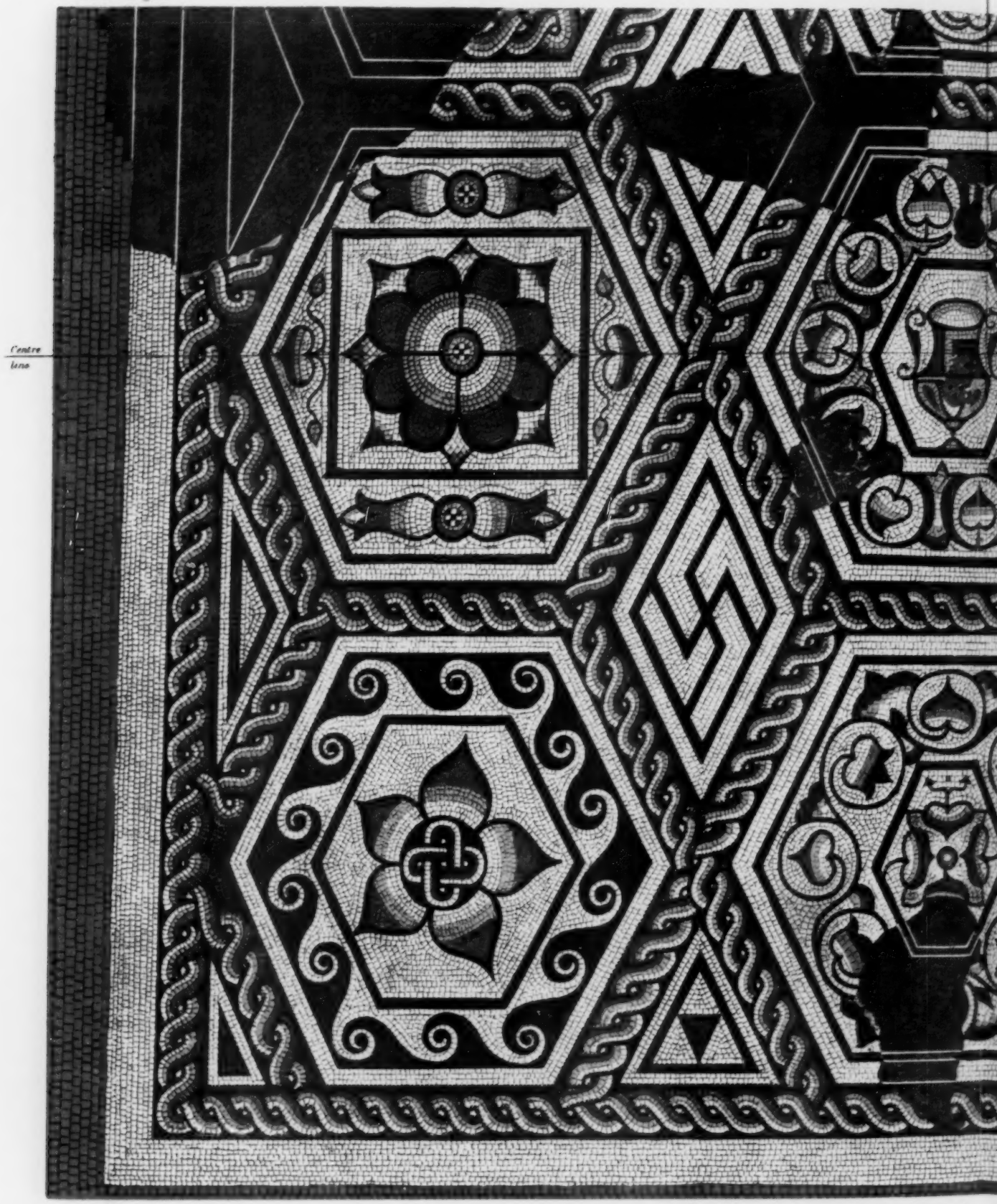
[b] This pavement, which was very evenly and well laid, was constructed of the following layers: (1) 1 inch of pink cement with *tesseræ* set in it; (2) 4 inches of white cement; (3) 7 inches of gravelly concrete; (4) 8 inches of gravelly yellow mortar. The whole rested on a bed of flint.

compartment the small panel contained a vase, while the other two had each a floral ornament. The compartments flanking the central one each contained a large rose within a square, with ornaments in the outer spaces. Of the four corner hexagons, two at opposite corners had broad plaited borders with a central flower-like device. The other two were each surrounded by a wavy scroll in black and white, which enclosed a five-leaved flower with knot-work centre. Attached to the eastern edge was a panel 6 feet long, which had unfortunately been greatly ruined. It had a compartment in the middle, now destroyed, with a handsome border of double braidwork. This panel naturally implies a doorway or opening in the wall in front of it. From the peculiar way in which the red *tesseræ* were returned at either end of the small panel this opening may have been as wide as 8 feet. It led into a small room (28), 15½ feet long by 9 feet 8 inches wide, at the south end of the corridor that traverses this side of the wing.

This corridor was about 75 feet in length by 9 feet 7 inches in width, and was paved throughout with ordinary red-tile *tesseræ*. Its side walls had been utterly destroyed for its whole length, except a small portion at each end of the outer wall.

At its northern extremity a door opened into a large winter room (29), warmed by a hypocaust. This adjoined the east side of chamber 22, and the north walls of both were in the same straight line. It was neither so long nor so wide as the last-named apartment, its actual dimensions being 19½ feet from north to south and 21 feet 2 inches from east to west.

The hypocaust was of the usual composite construction, with a central chamber about 10 feet square, filled with rows of *pilæ* made of square tiles; there were six of these rows in one direction and five in the other. From the centre radiated seven channels, six at right angles and one obliquely, to the wall-flues, but from two of the channels, those on the east side, there branched obliquely a second channel which was also forked at the end. The actual number of wall-flues was therefore eleven, and in seven of these the lowest flue-tile remained in place. The channels had side walls of flint and tiles laid in courses. One of the eastern pair is wider than the rest and was continued on through the wall to the outer air. As the broad channel and stokehole for the fuel is on the north side, this other channel can hardly have been so used also, and it was probably closed by a door which was opened when necessary for greater facility in cleaning out the hypocaust. The pavement of this room was of red *opus signinum*, large portions of which were left over the blocks between the flue channels on the north, east, and south sides. The suspended parts of the floor were unusually thin, there being only 4½ inches between its surface and the under side of the



Scale of

SILCHESTER.—MOSAIC PAVEMENT F



George E. Fox, delt. 1895

T FROM HOUSE No. 1, INSULA XIV.

bridging tiles. As usual, the central and other parts of the hypocaust had been greatly ruined by spoilers in search of building material.

Opening out of the southern end of the corridor, and attached to it externally, was another winter room (30), but of smaller proportions, being only 12 feet in width from north to south, and 13 feet 3 inches in length. The stokehole and feeding passage were on the north side, and from the central chamber six channels radiated in very irregular fashion to the wall-flues. The whole was much ruined and broken down, and nothing was found to indicate the nature of the suspended floor.

In describing the general plan of this eastern wing of the house it was pointed out that its inner or western corridor was returned across the south end. This probably led to the open ground outside on the east, but it no doubt also communicated with certain chambers and adjuncts to the south. To one of these (6), which has already been mentioned, we shall return presently. Immediately to the east of it and the room south of it (3) there seems to have been a small court-yard. A little further east the remains of a floor of red *opus signinum* and fragments of walls, together with traces of a pavement of red-tile *tesseræ* at a somewhat higher level, betoken the existence of a chamber or chambers. These were probably attached to the returned part of the corridor, and lay between it and the street. All was, however, too fragmentary to enable more to be made out than is shown on the plan.

Although the house under notice covered a large area, and contained many rooms,[a] there are very few of these that appear suited for or such as could have been used as bedchambers. Possibly the small apartments along the street front

[a] The dimensions of the rooms are as follows, the first measure being from east to west, the second from north to south: (1) 11 feet 9 inches by 14 feet; (2) 11 feet 1 inch by 7 feet 6 inches; (3) 12 feet 3 inches by 7 feet 6 inches; (4) 13 feet 2 inches by 5 feet 3 inches; (5) 3 feet by 5 feet 3 inches; (6) 5 feet 10½ inches by 14 feet 6 inches; (8) 7 feet 11 inches by 7 feet 7 inches; (9) 14 feet 8 inches by 7 feet 4 inches; (10) length uncertain, 7 feet 4 inches wide; (11) 7 feet 7½ inches by 17 feet; (12) 19 feet 9 inches by 17 feet; (13) 17 feet 2 inches by 17 feet 6 inches; (14) 17 feet 9 inches by 12 feet 8 inches; (15) 17 feet 9 inches by 15 feet 8 inches; (16) 17 feet 6 inches by 22 feet 4½ inches; (17) 17 feet 6 inches by 20 feet; (17a) and (17b) each 17 feet 6 inches by 7 feet 6 inches; (18) 17 feet 6 inches by 20 feet; (19) 22 feet 6 inches by 18 feet 3 inches; (20) 23 feet by 18 feet; (21) 8 feet by 15 feet 9 inches; (22) 22 feet 3 inches by 23 feet 4 inches (mean); (23) 22 feet 4½ inches by 20 feet; (24) 22 feet 4½ inches by 18 feet 4½ inches; (25) 22 feet 5 inches by 6 feet 3 inches; (26) 22 feet 6 inches by 15 feet 4 inches; (27) 22 feet 6 inches by 20 feet 1½ inch; (28) 9 feet 8 inches by 15 feet 4½ inches; (29) 21 feet 2 inches by 19 feet 6 inches; (30) 13 feet 3 inches by 12 feet. The thickness of the walls varies considerably. In the older part of the house the average is 18 inches, but in the eastern wing the main walls are 2 feet thick.

in the south wing, and some of those taken out of the external corridor on the west side may have served the purpose. If so, they would be for the servants only, and we have still to find accommodation for the master of the house and his family. It is very likely that their bedchambers were in an upper floor over the whole of the southern half of the south wing, and the chamber we have numbered 6 naturally suggests itself as a convenient site for the staircase. It would thus be connected directly with the principal part of the house, where the family obviously lived, and as that was completely shut off from the rest of the mansion, the approach and access to the sleeping rooms would always be private. The large size of the fine suite of rooms in the chief wing hardly suggests that there was a second story above them.

A reference to the plan of the house and to the difference in the thicknesses of its walls will show that it is not all of one date. We have previously noticed and placed on record the fact that the earlier buildings at Silchester had thinner walls than the later, and in the house under notice the south and west wings are on this account obviously older than the eastern range. It has already been pointed out that alterations have been made in the northern half of the western wing, but we have yet to consider what has taken place on the opposite side of the mansion. At first sight the eastern range from its superior importance and thicker walls seems to be an addition to an older house of the usual courtyard type. This is, however, not the case. It has been partly rebuilt and somewhat enlarged, but in its main lines it follows the original plan, and under several of the later walls are the strong and good foundations of the earlier ones. This is especially the case beneath the outer walls of the two long corridors as well as under the party wall between the two northernmost chambers. The other party walls, as may be seen from their thinness, belong to the older work.

It is not unusual in Roman houses to find that the *tesseræ* or other floors were laid and carried close up to the walls before these had received their plaster facing, the junction of wall-plaster and pavement being subsequently masked by a thick quarter-roll of plaster. But in the earlier party walls above mentioned this feature is reversed, and the mosaic floors of chambers 23, 24, 25, and 26 were found in each case to abut against the wall plaster. Further examination showed that the wall plaster continued downwards for some inches and was then broken away. It was evident, therefore, that in each case a new floor had been laid at a higher level, the older ones having first been broken up for the sake of the materials.

In room 26 a cutting below the pavement revealed the mortar bed of a floor at a depth of about 14 inches, covered with a layer or filling in of builder's rubbish

containing pieces of painted wall plaster. Other hard beds appear to underlie the pavements of the other chambers. (See the sections of the floors quoted above.) The change of level is clearly shown in the remains found to the extreme south of the wing, where an older *opus signinum* floor, which was not worth breaking up, is 5 inches below the level of the new floors of the range, while close by, at the higher level, is part of a red mosaic pavement of the later date.

The proofs of an enlargement of this range are as equally clear as those of alterations. It was pointed out in describing the hypocaust beneath the northern-most chamber (22) that it was an enlargement of an older one, and since the north wall of the rebuilt chamber and that of the other winter room east of it are in line, and also form a small angle with the main walls of the range, they are probably of the same date. The third winter room at the south end of the outer corridor is also most likely an addition.

Underlying the north part of the house was a wall of some enclosure of yet earlier date. Its western extent has not been traced, but it certainly ran from the party wall between chambers 19 and 20, under the two winter rooms, and as far as the next house, just before reaching which it was returned southwards, and finally passed under it. It would be useless to try and conjecture to what it may have belonged.

Before leaving House No. 1, a few words must be said on the objects found in and about it. The various rooms and corridors, as usual, yielded nothing of any interest, but from the pits beneath the walls and chambers were obtained several objects of exceptional character. These pits were fourteen or fifteen in number. A remarkable group of seven lay close together under the eastern half of the south wing. They were of earlier date than the house, for the walls and floors that crossed them had subsided into them, after the ruin of the mansion, in an extraordinary fashion. Beyond a few fragments of pottery near the surface, these pits yielded nothing, and it is possible that they were water-holes of an early date that had been filled up shortly before the house was built. Several other pits were obviously of the same character. This, however, was not the case with two of them. One that underlay the wall near the south-west angle of the house was unquestionably a Roman rubbish-pit. From it were obtained the pieces of two large pseudo-Samian bowls of early type, as well as other vessels of the same ware.

From beneath these were also recovered sixteen fragments of a bowl of marbled glass, of sapphire blue colour streaked with white and with yellow spots. The pieces have been put together, and most fortunately none is missing, so that

the bowl is now perfectly restored save for one or two minute splinters, which were probably lost when it was broken. The bowl is $4\frac{1}{4}$ inches in diameter and $2\frac{1}{8}$ inches in depth. It has been pillar moulded, but was afterwards ground smooth inside and for a depth of $\frac{1}{2}$ inch from the lip outside. The pillars on the exterior start from the ground band and gradually taper downwards with a slightly spiral direction.

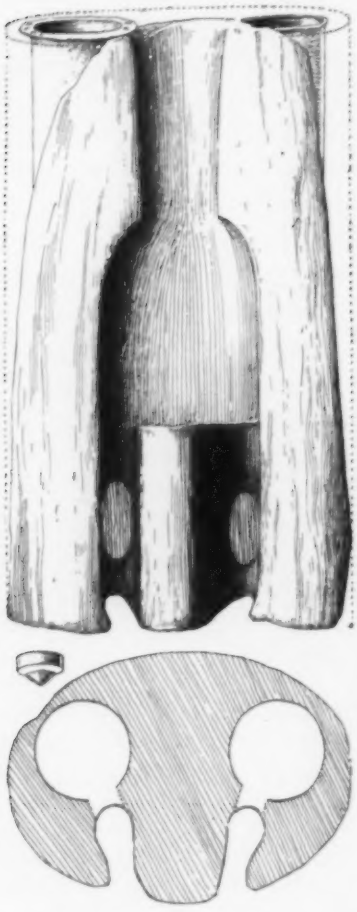


Fig. 1. Elevation and section of a block of wood and lead cylinders found in a well or pit in *Insula* XIV. ($\frac{1}{8}$ linear.)

Fragments of similar bowls have been found in previous excavations at Silchester, but, as in other places in Britain, their occurrence is very rare, and no complete example has hitherto been recovered in this country. Such glass was, of course, an importation from Italy.

The other pit whose contents call for notice was beneath the corridor wall on the west side of the inner courtyard, in line with the well. At the bottom of this, which was about 9 feet deep, lay a very remarkable object. It is a block of wood (fig. 1), seemingly oak, $22\frac{1}{2}$ inches long, and now roughly wedge-shaped, but originally its sides seem to have been parallel. The broader end, which was the base, measures 13 inches by 9 inches. Towards the top the wood has perished somewhat from decay. The block is pierced throughout its length by two large cylindrical holes, which, when we found it, contained each a section of stout lead piping. The pipes or cylinders are a little over 22 inches in length, and have been formed from pieces of sheet lead, $\frac{3}{16}$ inch thick, which have been bent round a mandril and the joint filled up with melted lead. Their internal diameter is exactly 3 inches. Round the top of each was a projecting lip or flange 1 inch wide. From one pipe this has wholly decayed away, but a good deal of it is left

on the other, and it retains the holes of the nails by which the pipes were held in place in the block. Besides the two cylindrical holes that contained the pipes, one face of the block is traversed by a chase from which a totally different series of pipes has been removed. Commencing at the top, there was a pipe about 8 inches long, and apparently $2\frac{1}{2}$ inches or so in diameter, with a trumpet-shaped mouth. It opened at the bottom into a flattened bell-shaped chamber about 7 inches long and 5 inches wide, from which descended two parallel lengths of piping about 2 inches in diameter and at least 7 inches long. Just above the base of the block there is a passage, or rather perforation, from each of the channels for the small pipes into the larger cylindrical holes, showing that originally the lesser pipes were connected with the others by short branches. This arrangement was afterwards altered, for the existing pipes, which are practically perfect, show no traces of the attachment of such branches. Either, then, new pipes of a different pattern have been substituted for the older, or others for another use have replaced the originals. The smaller pipes were perhaps taken out at the same time, otherwise it is not easy to account for the larger pipes being left and the others removed, when both sets were equally valuable for the sake of the lead. Within one of the branch holes was found a leaden weight, such as might have been fixed on the upper surface of a leather valve by means of a rivet passing through to the under side.

Whatever may have been the subsequent use of this singular contrivance, there can be little doubt that in its original state it contained a force pump identical in character with that described by Vitruvius[a] as the *Ctesibica Machina*,

[a] The following is the description given *De Ctesibica Machina* by Vitruvius: "Insequitur nunc de Ctesibica machina,quæ in altitudinem aquam educit, monstrare. Ea fit ex ære, cujus in radicibus modioli fiunt gemelli paulum distantes, habentes fistulas, furcillæ sunt figura, similiter cohærentes, in medium catinum concurrentes: in quo catino fiant axes in superioribus naribus fistularum coagmentatione subtili collocati, qui præobturantes foramina narium, non patiuntur exire id, quod spiritu in catinum fuerit expressum. Supra catinum penula, ut infundibulum inversum, est attemperata, quæ etiam per fibulam cum catino cuneo trajecto, continetur et coagmentatur, ne vis inflationis aquæ eam cogat elevare: insuper fistula, quæ tuba dicitur, coagmentata, in altitudine sit erecta. Modioli autem habent infra nares inferiores fistularum axes interpositos supra foramina earum, quæ sunt in fundis: ita de supernis in modiolis emboli masculi torno polito et oleo subacti conclusique regulis et vectibus convolvuntur, qui ultro citroque frequenti motu prementes aerem, qui erit ibi cum aqua, axibus obturantibus foramina, cogunt et extrudunt inflando pressionibus per fistularum nares aquam in catinum, e quo recipiens penula spiritu exprimit per fistulam in altitudinem. Et ita ex inferiore loco castello collocato ad saliendum aqua subministratur." *De Architectura*, lib. x. cap. xii.

or machine of Ctesibius.[a] The large lead cylinders or barrels (*modioli*) would be fitted with valves (*axes*) at the bottom, and with pistons (*emboli masculi*) worked from the surface by rods (*reguli*) attached to a rocking handle or lever. The lesser pipes (*fistulæ*), which must have been closed or sealed at the bottom, had valves at their upper ends where they opened into the receiver (*catinum*); and between these valves and the sealed ends were the short branches connecting them with the large barrels. The upper part of the receiver consisted of a conical cover (*penula*), from the top of which a rising-pipe (*tuba*) ascended to the surface. The existing lead barrels show no traces of valves, connecting branches, or of pistons having worked in them, and they are cut off quite flush at the bottom. They cannot therefore be the original pair.[b] The accompanying diagram (fig. 2) represents a probable restoration of the working parts of the Silchester pump.

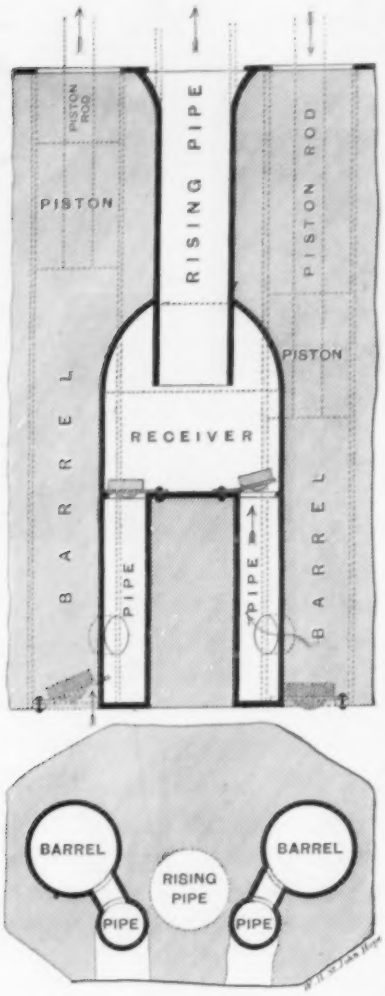
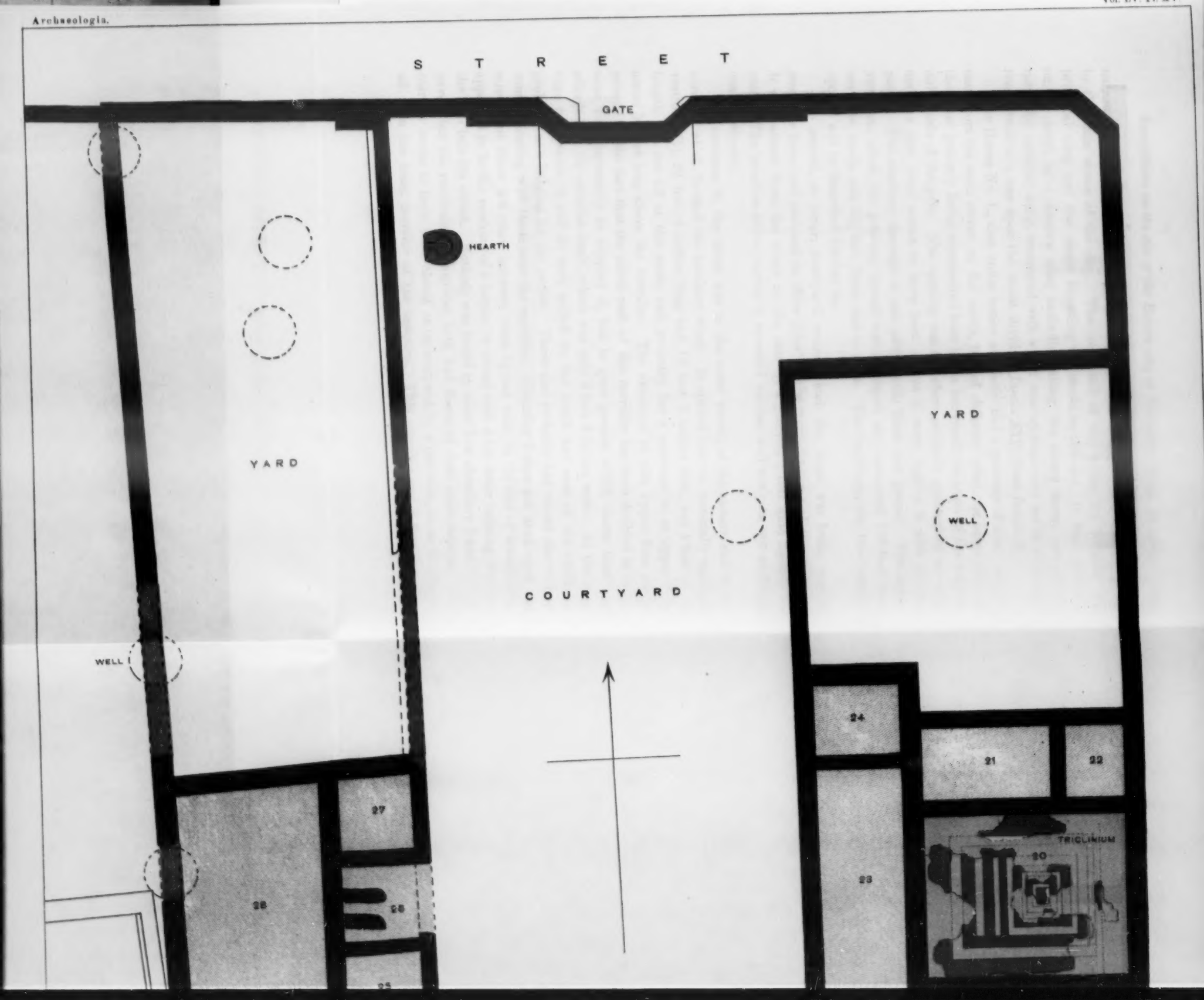


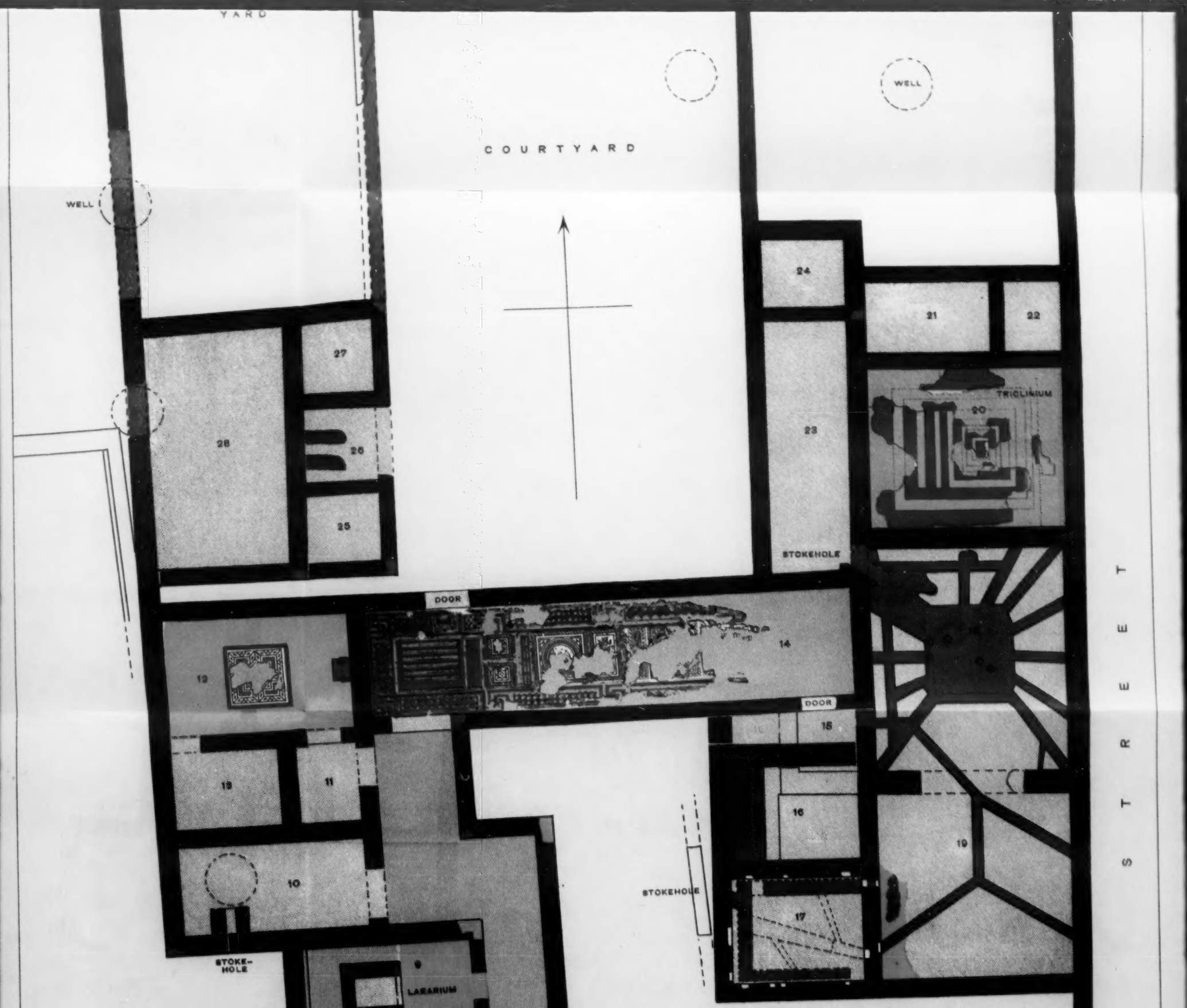
Fig. 2. Conjectural restoration of a Force Pump found at Silchester in *Insula* XIV. $\frac{1}{8}$ linear.

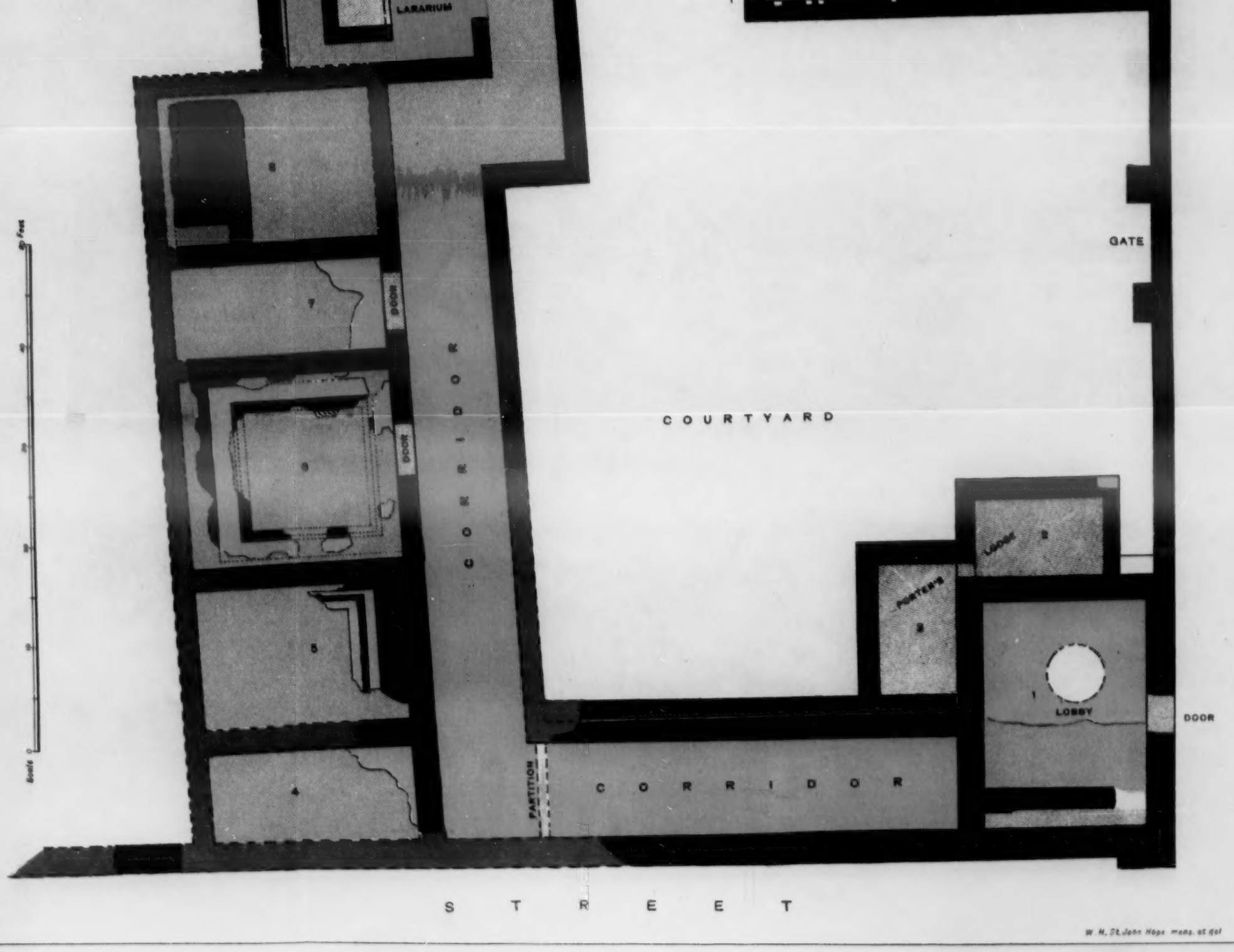
We now come to the consideration of House No. 2. It belongs to the courtyard type, but, unlike House No. 1, it is extremely irregular in plan (Plate XV.). The main wing was built against the division wall common to the two sections of the *insula*, and ran northwards from the street on the south for 129 feet. To the north of this wing, but detached from it by a

[a] The identity of the Silchester contrivance with the *Ctesibica machina* of Vitruvius was first pointed out to us by Mr. J. T. Micklethwaite, F.S.A.

[b] A pump of similar construction to that described by Vitruvius, but of bronze, was found some years ago at Bolsena, in Italy, and is now in the British Museum. Another example of the same kind, found in 1795 at Castrum Novum, near Civita Vecchia, is engraved in Smith's *Dictionary of Greek and Roman Antiquities*, 3rd edition (London, 1890), i. 570, s.v. Ctesibica Machina. Although neither of these resembles the Silchester specimen, the principle on which they are constructed is identical. A description of the Bolsena pump is appended to this paper.


S T R E E T
GATE
HEARTH
YARD
YARD
WELL
COURTYARD
WELL
24
21
22
27
23
TRICLINIUM
20
28
26
25


YARD
COURTYARD
WELL
WELL
24
21
22
27
28
26
25
23
TRICLINIUM
20
STOKEHOLE
DOOR
14
12
DOOR
15
13
11
16
19
10
STOKEHOLE
17
STOKE-
HOLE
LARARIUM
STREET



SILCHESTER.—PLAN OF HOUSE No. 2, INSULA XIV.



narrow interval, was a small block of offices, with a large yard extending up to the main street of the city. The courtyard of the house lay between the principal wing and the street bounding the *insula* on the east. It was enclosed on the south by a narrow wing extending along the street there, and on the north by another wing, connected with which was an important series of winter rooms built in a row upon the street dividing *Insula* XIV. from *Insula* II.

Like House No. I., that under notice evidently had a gateway of some importance from the main street on the north, but of different plan, the large piers of the other gateway being represented here by an increased thickness of the wall on either side of the gate. The opening was therefore probably spanned by an arch, and the gate itself seems to have been set, as it were, behind it with sloping jambs. The roadway through it was paved with flints and gravel. The courtyard into which the gateway opened was L-shaped, and measured 100 feet from north to south, and 76½ feet from east to west. The buildings, etc. that opened upon it will be described further on.

The second, or inner, courtyard, round which the house was built, was of irregular form, and enclosed on three sides by the main divisions of the mansion. It was entered from the street on the east by a gateway 8 feet wide flanked by piers. The trenches driven across it revealed neither well nor pits, nor anything else of interest.

The entrance to the house was in the same street, at the eastern end of the corridor which formed the southern wing. It opened into an unusually spacious vestibule (1), 22 feet 4 inches long and 16 feet 2 inches wide, but 4 feet of its length was cut off at the south end, probably for a staircase to an upper floor about 50 feet long above the corridor. The existence of this upper floor seems proved by the fact that the north wall of the corridor has been doubled in thickness, not necessarily to support it, but to gain greater width above than was afforded by the corridor itself, which was only 9 feet 3 inches wide. At the same time two rooms (2 and 3) were added on the north and west of the vestibule, probably as a lodging for the porter. These also probably had rooms above them communicating with those over the corridor. Chamber 2 does not abut upon the street, but there is a space between them 3½ feet wide, in the end of which there appeared to be the remains of a latrine or urinal with a tile drain running through the wall into the street. Nothing was found to show how chambers 2 and 3 were paved, but the vestibule and corridor both had floors of drab stone *tesseræ*. The corridor seems to have been closed at its west end by a partition, so as to shut it off from the main corridor of the mansion. This corridor was 8 feet 9 inches

wide, and extended from the street on the south northwards for 111 feet. It was paved throughout with coarse mosaic of drab stone. Originally it was doubtless straight from end to end, but at some later period a chamber near its upper extremity seems to have been extended across it, and it was then altered so as to pass round the end of this chamber.

On the west side of the corridor lay the main body of the house.

The first chamber (4) at the south end was paved in the same way as the corridors. It was somewhat narrower at one end than the other, in consequence of the house being built not quite at right angles to the street.

The next chamber (5) was of ampler proportions. Its pavement, of red tile *tesseræ*, had a central panel of fine mosaic within a triple border of the coarse kind, formed of two bands of drab stone with an intermediate one of red tile. The central panel had unfortunately been entirely destroyed, only a few of its cubes being left in one corner.

Chamber 6 was the principal room of the range, and probably served as the *tablinum*. It measured 20 feet 10 inches by 18 feet 9 inches, and had a pavement of somewhat elaborate character. The ground was of the usual coarse red *tesseræ*, with a central panel of fine mosaic, about 11½ feet square. This was bordered, first by a band of blue *tesseræ* 9 inches wide, then by a red band 5 inches wide, and thirdly by one of drab stone varying in width on the four sides from 18 to 28 inches. The border was of coarse *tesseræ*, like the red ground. Of the mosaic centre only a small fragment of a braidwork border and a few *tesseræ* in one corner remained. The room appears to have been entered from the corridor by a doorway 5 feet wide.

The next room northwards (7) was a long and narrow one of the same dimensions as 4, but with parallel walls. There was an opening, 5 feet 9 inches wide, into it from the corridor. It was paved with drab stone mosaic, but in the north-west corner, against the wall, was a patch of red tile *tesseræ*.

Chamber 8 measured 15 feet by 20 feet 10½ inches. At its upper end there remained part of its floor of the usual coarse red mosaic, but in the south-west corner there was inserted in this against the wall a panel of drab stone *tesseræ*. Not improbably this and the red patch on the other side of the wall show that there was a doorway at this point.

Besides the upper floor over the southern corridor, which probably contained storerooms as well as cubicles or bedchambers for the servants, there must have been further accommodation for the sleeping rooms of the master of the house and his family. We would venture to suggest that these apartments formed an

upper story over the range of rooms just described, and were reached by a staircase placed in the narrow space (4) to the south next the street.

On the west side of this suite of chambers was made a curious discovery. Lying on the ground alongside the line of wall, from the street to just round the corner of chamber 8, was a row of broken roofing tiles. They lay with their undersides uppermost, and further examination showed that beneath every junction lay a corresponding *imbrex* tile, also upside down. From the regularity of the tiles, even in their fallen state, it is evident that they had formed the bottom row of the roof of the range of chambers alongside which they lay. They had not simply slipped off, but the woodwork to which they were attached must suddenly have been overbalanced through the removal of the other rows above, and have so revolved in falling as to deposit the remaining row of tiles in the reversed position in which we found them. As the tiles had not any nail-holes in them, they must have been laid with mortar only upon the woodwork that supported them; the roof, therefore, could only have been one of very low pitch.

Chamber 9, from its peculiar character, requires a more detailed description than those previously noted. It will be seen from the plan that towards its western end lay the remains of a small square detached structure. These remains, when first uncovered, were taken to indicate the presence of a well, but further examination did not confirm this opinion. Then, as the excavations were continued and a neighbouring hypocaust was revealed, it was erroneously supposed that they had to do with the furnace room of that hypocaust, which was situated just behind them. Finally, the discovery of the back wall of the chamber showed them to be the substructure of a small square erection which stood isolated at the west end of the room. Further examination proved that the chamber had been floored with similar mosaic to that in the adjoining corridor, and that a panel of finer work had been laid in front of the square foundations. Fragments of wall plaster, of a delicate blue colour, were also turned up, which, together with the mosaic work, made it evident that this chamber was one of some importance in the mansion.

The foundations named had supported, there is little doubt, an *aedicula*, or shrine intended to contain the images of the household gods, together with an altar, and the room might therefore be considered a *lararium* or domestic chapel.[a] A frag-

[a] Such chapels are occasionally found in the houses of Pompeii. A good example of such a one may be seen in the house of Epidus Rufus in that town, where an *ala* of the *atrium* is devoted to this purpose. It contains an *aedicula* for the sacred images to which this at Silchester must have had considerable resemblance.

ment of a capital found in this house (fig. 3) may have formed part of one of the columns adorning this erection.

Judging from the plan of the house, it seems that originally there was a recess only in the corridor at this spot, possibly with a niche in the back wall and an altar in front of it. Afterwards the *aedicula* was built in the recess, the side walls of which were prolonged eastward to form the chamber enclosing it, and they were then joined by an eastern wall in which a doorway was made from the corridor. At the same time the corridor was altered to pass round the end of the chamber.

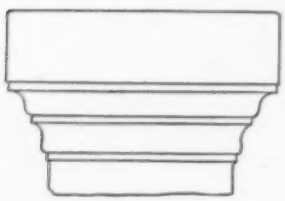


Fig. 3.
Fragment of a Capital found in House No. 2, *Insula* XIV. ½.

The discovery of this *lararium* is an important one. Up to the present time it has been impossible to fix definitely the locality devoted to the worship of the household gods in any of the houses which have been uncovered at Silchester. Usually in Roman houses, a niche in the wall, paintings about it of the accustomed figures, and an altar in front, were all that marked the spot devoted to that worship, so that if the wall which contained the niche or was covered with the painted effigies were swept away, nothing whatever would remain to indicate the place sacred to the familiar deities. The walls of all the houses at Silchester have been thus swept away. It is only, therefore, as in the example before us, when a chamber is found containing apparently an elaborately built-up shrine, that we are able to recognise the existence of *lararia* in a Romano-British city.

It may be that the single chamber to be found projecting from the corridors of some of the houses, generally in front of the main rooms, held an altar, and possibly also had a niche in one of its walls to contain the sacred images.[a]

It has been suggested that the small square building situated in the courtyard of House No. 1 of the *insula* under notice may have been a shrine to the *lares*. This is doubtful from its exposed position. It is worthy of remark, that it seemed to have been purposely destroyed. An even bed of clay had been formed or spread over such traces of foundations as remained, as if to serve as a bed for some kind of floor to the courtyard.

If it be supposed that the Romanised Britons adopted the fashion of having a chamber in their houses consecrated to private worship, a question arises, which is not easily answered (at least at Silchester), what were the divinities adored in

[a] For such chambers see a trace in House 1, *Insula* I.; House 4, Chamber 3, *Insula* VII.; House 1, Chamber 6, *Insula* VIII.; also a projection from the western corridor of the *Hospitium* in the same *insula*, and a room projecting from the centre of the corridor of a small house called by Mr. Joyce, Block I. (*Archaeologia*, xl. pl. xxiii.*)

these *sacraria?* In the houses of Roman settlers, or in those of Roman descent, images of the *lares* would certainly be found, similar in most respects to a small bronze statuette[a] dug up at Silchester some seventy years ago (fig. 4), but images other than these must have been the occupants of the places set apart for worship in the houses of the Romanised Britons. There has been a singular absence of effigies of the gods in our explorations at Silchester. The only characteristic finds, in fact the only finds, have consisted of a headless statuette of a female figure, fully draped, seated in a wicker chair and nursing two infants, and three fragments of statuettes of a Venus of well known type. These fragments all belong to a class well known in France, specimens of which are occasionally found in this country.[b] They are of pipeclay or white terra-cotta. The figures resembling the seated female effigy are called by some antiquaries the goddess mothers, by others images of Latona or Juno Lucina. There is an opinion that such effigies as these, and others in stone of small dimensions, may have been worshipped as household gods in Gaul, and it seems possible that the images of similar divinities may have found a place also in the houses of the Romanised Britons.[c]



Fig. 4.
Bronze Figure found at Silchester. ¼

It appears a likely conjecture that the absence at Silchester of images of the gods privately or publicly worshipped may be accounted for by the fact of the continued existence of the city through the Christian period of Roman rule (at

[a] Now in the possession of W. G. Mount, Esq., M.P., of Wasing Place, Berks. See *Proceedings*, 2nd Series, xvi. 74.

[b] Edmond Tudot, *Collection de Figurines en Argile de l'Époque gallo-romaine*, 1860.

[c] *Revue Archéologique*, troisième serie, iv. 285. Ed. Flouest, *Archéologie Gauloise. Deux stèles de Laraire.*

least a century) during which the effigies of the Pagan deities were either destroyed or hidden away.

After this digression we will proceed with the further consideration of the plan of the house.

Next to Chamber 9, which we may reasonably presume to have been a *lararium*, was a group of four rooms (10—13). On plan these form a continuation of the main range, but they were actually cut off from it, at any rate in later times, by the *lararium* and a small open court on the west of it.

Chamber 10 was entered from the corridor by a doorway in the west wall. Originally it was warmed by a hypocaust, but this was subsequently disused and the archway of its stokehole walled up. We found that the suspended floor, and the *pilæ* that supported it, had been entirely removed, and there only remained the two blocks that flanked the stokehole to tell the tale. The hypocaust was fed from the little court on the west of the *lararium*.

Chamber 11 was a small and nearly square one with doors or openings in its east and north walls. It seems to have served as a lobby or vestibule to chamber 12.

This apartment (12) had a pavement of drab stone *tesseræ*, very well laid, in the centre of which was a small panel of fine mosaic, surrounded by a narrow border of coarse red-tile *tesseræ*. The design was composed of black lines on a white ground with angle-panels of braid-work. The lozenge-shaped centre, which had unfortunately been almost totally destroyed, had also a braid-work border. The design is practically identical with the minor portions of the fine but mutilated pavement in chamber 22 of House No. 1, and was not improbably laid down at the same time and by the same workmen. But the most peculiar feature in this room was a small fireplace of tiles built upon the floor against the middle of the east wall. It had cheek-pieces of tile, and not improbably three other tiles set as a half hexagon in the wall formed the back of the chimney. Such internal fireplaces are very rare. Good examples were once to be seen in the Roman *villa* at Bignor in Sussex,[a] and others have been found, we believe, in the north of England.

A doorway in the south-west corner of chamber 12 opened into chamber 13. Its floor had been wholly removed. In its south wall, or in that of 11, was probably a door into chamber 10, so that the three chambers 10, 12, and 13 with the vestibule (11) formed a suite parted off from the rest of the house.

[a] Samuel Lysons, *Reliquiæ Britannico-Romanæ* (London, 1817), iii. pl. xx. figs. 2, 3, 4.

At the north end of the corridor that flanked the whole of the chambers just described was an opening 6 feet 6 inches wide, crossed by a step, into a long hall or gallery, 12 feet in width and 54 feet 2 inches in length. This stood east and west, and led to a suite of large winter rooms, which were otherwise detached from the main body of the mansion.

The remarkable feature about the hall was its mosaic pavement. Although of inferior design, it was very elaborate in character. The general ground was of drab-coloured stone, with a border about 3 feet wide, marked by a broad band of red-tile *tesseræ* on each side of it. The interlacing of these bands formed a fret at the corners and at three equidistant places along the sides, and thus broke up the border into long and narrow panels, filled with two varieties of checker-work of red-tile *tesseræ*. The end panels were also of the same checker-work. At one place, near the west end, the design of the first panel on the north side was interrupted by the intrusion of one of a different character, which formed, as it were, a mat to a doorway opening into the hall from the outer courtyard.

The central portion of the pavement was treated in the most capricious fashion. Beginning at the west end, there was first a sort of gridiron panel, formed of red bands on the drab ground. Next came a broad transverse band of red, followed by two oblong red panels placed side by side. In each of these was inserted a small panel of fine mosaic, 31 inches square, with central floral device and braidwork border. Beyond these again was a narrow transverse band like a grating formed of lines of red upon the drab ground.

The next 20 feet or so were occupied by a succession of panels of fine mosaic. The first was about 6 feet square, and had in the centre, on a white ground within a circular border of braidwork, a bust, but this had unfortunately been almost destroyed; it was set in a square frame of brown with black edges, beyond which again the white ground had a border of braidwork.

The second panel was an oblong one, 3 feet 4 inches in width by 5 feet 10 inches in length. It had an outer border of braidwork, then a narrow medial one of pale brown, with an inner one of black and white, the ground being drab. In the centre was a circular medallion with a black and white frame, but the device within it had been destroyed. At each end was represented a red and white basket filled with blue flowers, with a large pendent leaf on either side. One of the baskets had unfortunately been broken up.

The third panel was separated from the second by a wider interval than that between the second and first, and measured 10 feet 2 inches in length by 6 feet 4½ inches in width. It had a ground of small drab *tesseræ*, in which were set a

square central and two oblong side sub-panels. The central sub-panel was so ruined that nothing could be made out as to its design. It had a white ground with quadrant-shaped corners, all within a braidwork border, which also surrounded the quadrants. The side sub-panels each contained three compartments, of which the two end ones were filled with interlacing knotwork; the central compartment was almost destroyed. A key-pattern border enclosed the whole.

Next to this composite panel was a transverse band of coarse mosaic, but of half-inch cubes, composed of alternate narrow red and long white compartments, with a narrow counter-changed border.

Beyond this was another series of panels of fine mosaic, but with the exception of fragments of two, that were apparently for the most part white with black lines, all had been hopelessly destroyed by the comparatively recent action of a "scarifier."

The one-inch *tesseræ* of red tile and drab stone which formed a groundwork for the fine panels of the central division were not nearly as well squared or so regular in dimensions as those of the floors in House No. 1. The tile *tesseræ* varied visibly not only in size but in tint, and were interspersed with black overburnt specimens in an unsightly fashion. With respect to the design, it is common enough to find a pavement of fine work set in a ground of coarse material, but it is not common to find that ground enriched with ornament.[a] It looks very much as if the whole pavement had originally been composed of red and drab *tesseræ*, and that subsequently the central division had been partly removed to give place to panels of finer work in different colours, inserted in rather promiscuous fashion. Even this finer work is indifferent enough and wanting in distinction.

The materials of the *tesseræ* are, with one exception, the same as those used in the floors of House No. 1. The basket of flowers represented in the long panel has a certain number of *tesseræ* in two shades of blue. These appear to be cubes of glass paste, an uncommon material in mosaic floors.

It would seem that the owner of House No. 2 was either less fortunate in the choice of mosaic workers than his neighbour or that the floor in question is later than those in House No. 1, and this is perhaps the more probable conjecture.

Before finally leaving the pavement of the hall two curious features may be mentioned. Near the middle of its length was found a thick patch or deposit of mortar, and traces of another such patch were visible elsewhere. These may

[a] See for an example of this arrangement a floor found at Scamton in Lincolnshire in 1795, figured in Fowler's *Mosaic Pavements*.

point to a period in the history of the house when its mosaic floors were so little thought of that they were actually used to mix mortar upon for repairs by the then tenants of the mansion. A still later phase, perhaps, is indicated by the traces of burning visible in the centre of the hall, where the floor has been destroyed by the action of a fire lighted upon it, possibly the work of wandering herdsmen who sought shelter amidst the ruined walls.

In the south wall of the hall, near its east end, was a doorway into the winter rooms of the house. These originally formed a range placed transversely to the end of the hall and lining the street on the east side of the *insula*. But other rooms were subsequently added on the south-west, in the angle formed by the range and the hall, and these were balanced to some extent on the north by a narrow set of offices. The doorway from the hall at first opened into a small square chamber (15), placed in the angle, which served as a lobby to the principal room east of it. This room (18) was 25 feet 3 inches long by 21 feet 8 inches wide, and was warmed by a composite hypocaust of somewhat elaborate construction. The stokehole was in the north-west corner. The position of the wall-flues indicated that there was a doorway on the north side into the next room, and that the windows were in the south wall. Of the pavement no traces were met with.

To the south of this room there was afterwards added another of nearly the same size, and a wide opening made in the party wall, so that the two practically formed one great apartment nearly 50 feet long. At the same time the flues of the hypocaust in the older chamber were extended into the addition so as to give three more wall-flues. The presence in the south-west corner against the wall of patches of drab and of drab and red *tesseræ* may perhaps indicate the existence of a central panel of fine mosaic with a parti-coloured ground, as in the pavements of the main wing of the house.

At a still later period were added the two chambers (16 and 17) on the west of the apartment just described. This addition entailed the destruction of the small lobby before mentioned, which was now replaced by a narrow strip 14 feet long and $3\frac{1}{2}$ feet wide between the new rooms and the hall. This perhaps contained a staircase to an upper floor. A new entrance was probably made at the same time from the hall directly into the large winter room (18).

The northernmost of the new chambers (16) had beneath its floor one side and an angle of the old lobby, to which an older wall was attached on the west. This wall was parallel with the west wall of the chamber, from which it was distant about $3\frac{1}{2}$ feet. Between them was a sunk area 2 feet deep paved with coarse

red *tesseræ*. The lines of these, however, were not quite parallel with the side walls, and they clearly formed part of a floor of some still older construction, or perhaps a former wing of the mansion. A short length of a wall of this, which was found outside on the west, was evidently connected with the pavement, from its parallelism with the lines of the *tesseræ*. The floor of chamber 16 had been destroyed.

The second of the added chambers (17) lay to the south of the other, with which it communicated by a door in the dividing wall. It was warmed by a hypocaust, the construction of which differed from any we have yet found at Silchester.

The stokehole was on the west and had an arched opening to a diagonal passage through the wall, which led into a narrow oblong compartment parallel with the wall, and containing two *pilæ*. At the north end of this compartment a short and narrow passage of triangular section led into a second compartment about 15 feet long, built against the north wall of the room. The south end of the first compartment opened into another but somewhat larger triangular passage that led in the same direction to a third compartment or flue traversing nearly the length of the south wall. Out of these three compartments opened the wall-flues. From the first-named compartment a branch flue of triangular section started at a higher level and passed diagonally down the room to a flue in the east wall. From it two lesser flues, square in section, communicated obliquely with the side compartments. Both the square and the triangular flues were constructed of large tiles. No remains existed of the floor that had overlaid this curiously contrived hypocaust.

It may be here pointed out that the end flue of the northern compartment seems to have been a double one, so constructed as to serve both chamber 17 and chamber 19.

On the north of the large winter room (18) was another large chamber (20). It had a mosaic floor of a very rude description, the *tesseræ* of which were of all sizes and shapes, and seem to have been laid down almost at haphazard. The design was peculiar, being formed of concentric bands of red tile and drab stone surrounding a small oblong panel.[a]

This arrangement is worthy of note because it may show the special use to which the chamber was put, namely, as a *triclinium*. The small oblong panel

[a] Such an arrangement of concentric lines is to be found in the remains of the floors of the corridors of a large Roman villa in the Greetwell fields near Lincoln. *Archæological Journal*, xlix. 258.

would indicate the spot for placing the table, with its couches on three sides, while rows of parallel bands of red and drab *tesseræ* on the fourth side marked the space reserved for the service.[a]

On the north of the *triclinium* were two chambers (21) and (22) of unequal size. The larger was perhaps a kitchen, and the smaller a pantry or some such office.

On the west side of the *triclinium* was a long and narrow annexe with a small chamber at its north end. It was probably roofed in, and contained the stoke-hole for the great hypocaust under chamber 18, and no doubt the store of fuel for it.

To the north of the several offices just described was a large yard 37 feet long and 33¾ feet wide. In the middle of this was a well 30 feet deep. It will be remembered that in 1894 we found a well in House No. 1, *Insula* IX., which had at the bottom a large wooden tub instead of the usual square timber framing. This well in *Insula* XIV. had at the bottom two such tubs one above the other. The sides of the shaft unfortunately collapsed and destroyed them before they could be properly examined.

The western side of the outer courtyard had a somewhat similar arrangement to that on the east side. The block of chambers consisted of three small offices (25-27) with a large one (28) behind, and north of these a yard, 27 feet wide and 71 feet long, extended as far as the main street. The second of the small offices (26) had two parallel masses of masonry against its back wall, which may have been the support of a stone table. In the room behind were found the fragments of two *mortaria* of the largest size, and of several bowls of red earthenware with flat rims of a form not hitherto observed at Silchester.[b]

[a] A little panel of rich work in a large plain field is occasionally found in the mosaic floors of *triclinia* in Pompeian houses. It was evidently there laid down as a guide for the placing of the table and couches at the dinner hour. An example occurs in the *triclinium* of the great *Fullonica* in Pompeii, and other instances are to be found in various houses in that city.

[b] The dimensions of the rooms in the house were as follows, the first measure being from east to west, the second from north to south: (1) 16 feet 2 inches by 22 feet 4 inches; (2) 12 feet 9 inches by 7 feet 9 inches; (3) 7 feet 10 inches by 12 feet 9 inches; (4) 20 feet 4 inches by 8 feet 10 inches (mean); (5) 20 feet 4½ inches by 13 feet 9 inches; (6) 20 feet 10 inches by 18 feet 9 inches; (7) 20 feet 10 inches by 9 feet; (8) 20 feet 10½ inches by 15 feet; (9) 18 feet 11 inches by 10 feet 8 inches; (10) 20 feet 10½ inches by 9 feet 10 inches; (11) 6 feet 11 inches by 8 feet 7 inches; (12) 20 feet 7 inches by 13 feet 1½ inch; (13) 11 feet 8 inches by 8 feet 7 inches; (14) 54 feet 2 inches by 12 feet 3 inches; (15) 6 feet 6 inches by 6 feet 10 inches, and afterwards 13 feet 10 inches by 3 feet 6 inches; (16) 13 feet 10 inches by 10 feet 4½ inches; (17) 14 feet 6 inches by 11 feet

In the north-west corner of the outer courtyard was found, at a depth of 15 inches beneath its pavement, a small circular hearth, somewhat like those found in *Insulæ* IX. X. XI. XII. and XIII. It was not, however, of the same dimensions, and had probably a different use; it was also, no doubt, of earlier date.

Having now dealt with the plans and general arrangement of the two houses of *Insula* XIV., which formed the chief discovery of the season of 1895, it will be as well to say something more of what remains of their principal adornments, viz. the mosaic pavements discovered in each, and such traces as could be found of their mural paintings.

First, as to the tessellated pavements.

The first impression conveyed to the eye by these floor mosaics is that of a predominance of black and white in the designs. But, although the leading lines are always black and the grounds invariably white, a second glance will show a variety of colouring not perceived at the first moment. In the pavements of chambers 22 and 27 of House No. 1, besides the invariable black and white, we have a scarlet and purple red, a greenish and orange yellow, a blueish, a greenish, and a brownish gray. All the best specimens of mosaics in this country show as much variety of colouring as here named, and more where figure subjects occur.

The materials of which these floors are composed are, with very few exceptions,[a] all of native stones or Purbeck marble; the principal exception being in the composition of the bright red *tesseræ*, which are always of brick, whether employed in the larger form as a ground for the finer work or as smaller cubes in the finer work itself.

The *tesseræ* of which the finer mosaics are composed are on the average $\frac{1}{3}$ inch square, and this may be considered the standard of size for all the finer mosaic work in this country. Many *tesseræ* are less than the size named and a proportion exceed it, but the average is as here stated. The *tesseræ* are by no means always exactly squared, and the joints have not the closeness and accuracy of fitting to be seen in the tessellated marble work of Italy. It may be that the coarser materials

$7\frac{1}{2}$ inches; (18) 21 feet 8 inches by 25 feet 3 inches; (19) 21 feet 6 inches by 20 feet 4 inches; (20) 22 feet by 18 feet; (21) 13 feet 10 inches by 8 feet; (22) 6 feet 6 inches by 8 feet; (23) 9 feet 4 inches by 28 feet 7 inches; (24) 9 feet 4 inches by 7 feet 9 inches; (25) 8 feet 3 inches by 8 feet; (26) 8 feet by 8 feet 2 inches; (27) 8 feet square; (28) 15 feet by 26 feet 10 inches. The average thickness of the walls is 2 feet.

[a] The statement sometimes made that foreign materials (more especially Palombino for the white grounds) were employed in British mosaic floors is erroneous. It is possible that an occasional example of the use of foreign marbles may have been noted in London, for instance, but doubtfully anywhere else.

of the British mosaics did not permit of the same nicety of workmanship which is possible in marble.

The pavements of chambers 22 and 27 of House No. 1 are good examples of two great divisions into which most of our mosaics may be divided: 1. Those in which single black lines form the principal geometric divisions of the pattern, often mixed with panels of braid and other work; and, 2. Those in which the pattern is formed by bands of braidwork or *guilloche*, the panels resulting from the intersections of the bands being usually filled in with floral or other ornaments or figure subjects. Possibly the first division is the older of the two, the second relying for effect on ever-increasing elaborate combinations of braidwork bands.

A somewhat exceptional design was found in the floor of chamber 23 in the same house. Black fretwork on white ground is largely employed in Romano-British mosaics, but is rarely found unmixed with coloured ornamentation. Such combinations of black and white only, as seen in this floor, are perhaps of early date. It may also be said that the thinner the line of the fret upon the white ground the earlier it is likely to be.[a]

Before passing to the general consideration of the mosaics of House No. 2, reference must be made to one other fact which has already been noted, the irregular disposition of the panels of finer work in the various chambers of the house first described. These panels were so laid that they did not occupy the centre of the floor space, but had on one or two, or even three sides, a wide margin of the red ground in which they were set. This curiously irregular disposition is occasionally found in other mosaic floors in this country, and is worthy of careful record, as it can scarcely be doubted that it indicates the position occupied by the furniture of the room in which it occurs. The elaborate mosaic panels would be left uncovered, while presses, cabinets, couches, etc. would be ranged upon the broad spaces of common red ground, on one or other or both sides of it.

House No. 2 had lost what were probably its best pavements, but those which were left are worthy of remark, though not for their beauty. In chambers 5 and 6 of the principal range the large central panels were quite gone, and the broad

[a] A good example of fretwork mixed with panels of braidwork is to be found in the principal pavement of a villa at Box Moor, Herts. (*Account of Excavations on the site of two Roman Villas at Box Moor, Herts*, by John Evans, F.S.A., from *Archaeologia*, xxxv. 56-69.) Another may be seen in a pavement discovered in the Blackfriars at Leicester in 1754, figured in Nichols's *History of Leicestershire*, vol. i. part i. plate viii. A far finer one occurs in the southern division of the *triclinium* of the Roman villa at Chedworth, in Gloucestershire, which, so far as we are aware, has never yet been published.

bands of coarse mosaic which surrounded them were in a very fragmentary state. These bands, of drab stone and red *tesseræ*, are a feature not found in the floors of House No. 1. They lessened the size of the more finely-worked panels, and were a cheap expedient for giving effect. In both 5 and 6 the red-tile grounds in which the panels, with their borders, were set, showed a broad stripe, in No. 5 on the east side, in No. 6 on the west, opposite the door of entrance from the corridor, possibly for the reason we have already mentioned. The wide band of a blackish blue colour round the panel in chamber 6 was of brick *tesseræ* burnt almost to vitrification. This burnt brick is one of the exceptions to the usual materials previously mentioned, and it has occurred in other mosaics at Silchester.

It will be seen that the tessellated pavements discovered last year are of considerable interest, not only for the beauty of the designs of some of them, but from the illustration they afford of the gradual decline of the art of mosaic from the excellent specimens of House No. 1 to the poor example in the *triclinium* of House No. 2.

After the mosaic floors, though perhaps first in importance as far as decorative effect is concerned, come the mural paintings with which Romano-British houses were profusely adorned. The remains of such paintings at Silchester are scanty indeed, but from the two houses described we have been able to gather a certain number of specimens. They show that the colours and methods of work were the same as those employed in Italy, though possibly with less skill and refinement.

The fragments of painted wall decoration, with two exceptions, were turned up in various places, and cannot be assigned to any particular chamber in either house. The exceptions are the painted plaster from the *lararium* in House No. 2, and from chamber 22 in House No. 1. The fragments may be classed as follows: representations of drapery, imitations of marbles, architectural forms, and floral and other ornaments.

Of the two or three specimens showing draperies one is of a gold colour with the folds dependent from shaded lines, probably imitations of mouldings. This fragment may be part of a painting representing a hanging round the lower part of a room; such a hanging as was depicted as a dado on the walls of a villa found at Comb End, in Gloucestershire.[a] Other fragments are possibly portions of draped figures.

The imitations of marbles come doubtless from dadoes, though the panels there painted may have been continued upwards as pilasters framing variously coloured

[a] Samuel Lysons, *Reliquiæ Britannico-Romanæ* (London, 1817), ii. pl. 1.

spaces. Dadoes representing marbles are to be found in the Pompeian houses, and there, as here, the representation is not an attempt to slavishly imitate in colour and texture the real substance, but is a true picture of the marble; a far higher form of art. The imitations hitherto found at Silchester include a kind of breccia, giallo-antico, porphyry, and what looks like some kind of granite.

An equally marked way of dividing the wall spaces was by painted columns.[a] Only one piece of wall plaster showing this method has yet been found, as far as we are aware, at Silchester, and this occurred in the ruins of the baths attached to the *hospitium* (*Insula* VIII). It probably came from the walls of the *apodyterium*. Some fragments, on which shaded lines are to be observed, may represent mouldings intended as borders of plain coloured grounds.

Of ornament other than what has been named there are one or two fragments, some of part of a dolphin.

A number of pieces of wall plaster from chamber 22, House No. 1, are of special interest. They were turned up from a heap of rubbish just north of that chamber, and had evidently been shovelled away from its floor when the hypocaust beneath it was plundered of its tiles. The pattern on these fragments exhibited (see fig. 5) a series of rings and hollow squares of a gray colour upon a dark claret-red ground, linked together by lines of ears of barley, with intermediate centres of blue rosettes. From the circles alternating with the squares ran diagonal lines of leaves and berries, which touched at their ends the bands of green and black bordering the composition above and below. From the angles of the squares ears of barley started diagonally also. The whole band of ornament probably constituted part of the dado of the chamber.

It is worth noting in this composition the use made of ears of barley, which the sight of the harvest fields round the Roman city suggested to the painter. Not only are ears of barley represented, but also the flower so frequently found growing amongst the corn, the corn-cockle; if, indeed, the dull lilac quatrefoil placed above the gray circle and repeated below it may be taken for this flower. As the painters of southern Europe drew their decorative forms from the flora around them, from the vine, the myrtle, and the acanthus, so also did the artists of our northern island.

Likewise to be noted is the strong similarity in the technical methods practised here and in Italy. After the walls had received their finishing coat of plaster, the setting-out lines of the decoration were drawn upon the surface of the wall with

[a] See for a good example of this class of decorative painting, E. T. Artis, *The Durobrivae of Antoninus* (London, 1828), pl. 32.

some sharp instrument, probably a *stylus*. The ground colours were then applied, and the incised lines showing through them served as guides for the application of the ornamentation. Traces of these setting-out or guide lines are to be seen in the fragments last referred to, and, as they are filled by the ground colour, they

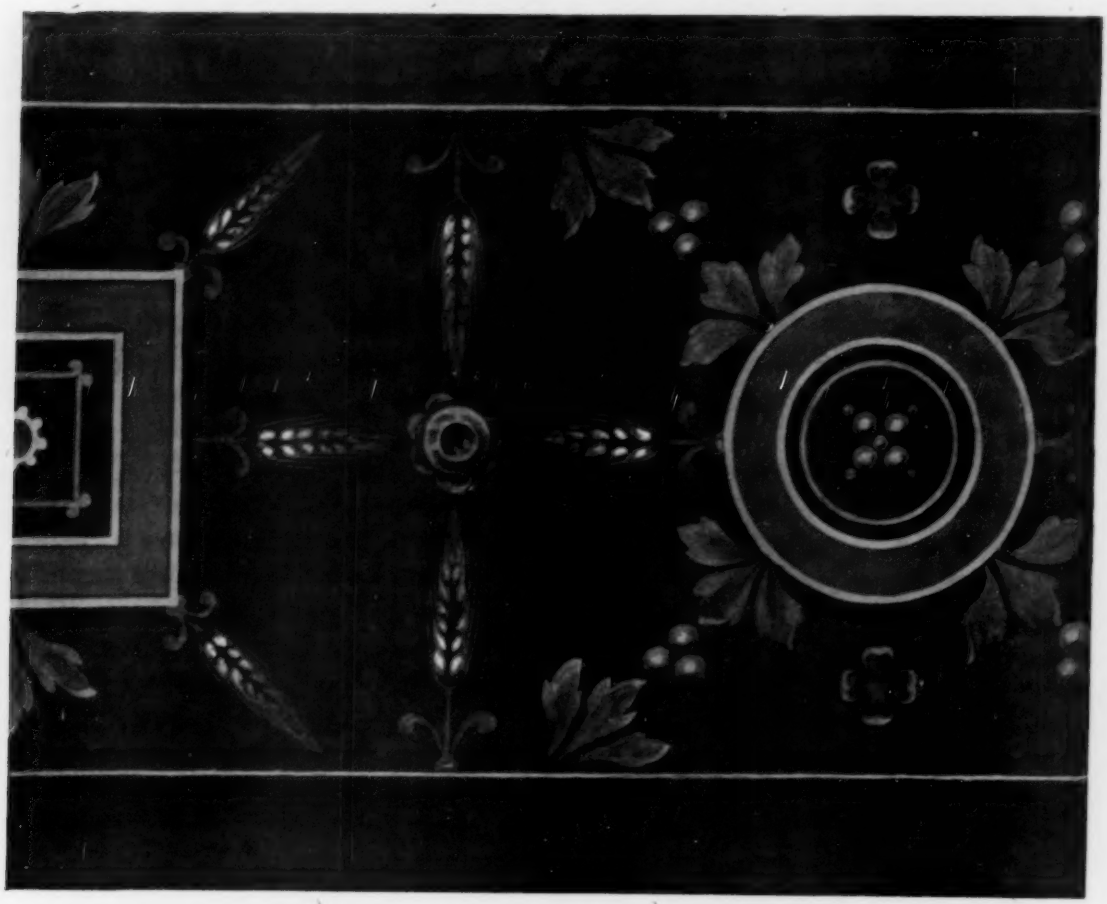


Fig. 5. Diagram showing restoration of pattern of a painted dado in House No. 1, *Insula* XIV. ¼ linear.

must have been incised in the plaster-surface before it received any colouring. This process appears to have been used in decorative painting in Pompeii. It is very clearly displayed in one of the chambers of a house in Regio V. of that city,[a] where the main divisions of the ornamentation are thus incised in the plaster of the walls.

[a] *Insula* II. Decumanus major.

What medium was used with the colours is a matter of conjecture. Possibly the process employed in applying them was that known in modern times as fresco-secco, in which the walls, being prepared as for fresco, are re-wetted with water charged with lime, and painted upon while still damp. This method implies rapid execution on the part of the painter. The quick touch and decision seen in the fragments of painted work from Silchester would favour the idea that this might have been the process employed there. At the same time the paintings may have been executed in ordinary tempera, size being used as a medium, though this is very unlikely.

As yet we have too few specimens to form any judgment on the merits of the mural paintings which adorned the houses at Silchester.

The walls of the buildings having disappeared, we can only guess at the disposition of the decorative paintings. It must, doubtless, have been governed by constructive arrangements. In Pompeian houses the ordinary rule was to divide the painted wall-spaces of the chamber into three: (1) a dado running round the bottom of the room; (2) panels above it; and (3) above them a frieze of varying depth. The same system appears to have prevailed in Romano-British dwellings, but modified very possibly in the proportions of the different divisions. For instance, the eastern range of rooms of House No. 1, which in all likelihood had no floor above it, was lined on either side by a corridor, necessitating the placing of the windows of the chambers above the roof line of those corridors. In this case the frieze in the decorative arrangement of the chambers would probably correspond to the depth of the windows, and its depth would govern the setting out of the remaining wall-space.

The colours most frequently used for the grounds of panels appear to have been different shades of red, and next in frequency yellow. Blue was of rare occurrence, and neither white nor green was common. Very little architectural detail has been found so far in the houses at Silchester. For this reason we are compelled to believe that, for decorative effect, colour and mosaic were relied on rather than form. How far the love of colour prevailed may be seen in the fact that even the roughest chambers were ornamented with painted work. The fragments of rude plastering, which could only have come from the offices of the houses of which we are treating, have lines of red upon them, and even the walls of the small dark guard-houses of the west gate of the city bore traces of colour.

So little remains, however, of those wall decorations that it is only by an effort of the imagination we are able to realise the effect of the series of brilliantly painted chambers, with their mosaic floors, which constituted the more considerable

part of the two extensive mansions we have been examining. Yet a careful consideration even of the scanty fragments discovered, and their comparison with more important remains on other sites in this country and in Italy, enable us to call up a picture of the internal aspect of the houses of the Roman city with more certainty than might at first sight be considered possible.

As usual, a large number of miscellaneous antiquities were discovered during the excavations.

The coins found were comparatively few in number, and of no special interest.

Besides the blue glass bowl already described, considerable portions of another pillared vessel of clear glass were recovered, as well as the greater part of a square bottle. Many fragments of a pane of clear window glass were also found, but not in sufficient quantity to enable its size to be ascertained. A certain number of beads were picked up; also some pieces of a red crystalline deposit which was at first supposed to be enamel, but Professor Church pronounces it to be realgar, a substance that does not seem to have hitherto been recognised on any Romano-British site.[a]

The objects in bone included numerous perfect pins and needles of various patterns, and a large piece of ornamental inlay.

Among the bronze objects may be mentioned, besides the ordinary brooches, etc. a curious mass of small nails, evidently from some bronze-worker's shop; an exceptionally perfect *stylus;* a pair of long tweezers; several good examples of *ligulæ;* a small and narrow boat-shaped vessel, perhaps for pouring out a liquid by drops; and an iron plate with ornamental bronze studs.

The iron remains, as usual, included a number of interesting objects, such as the bottom of a hanging lamp-stand, knives of various sizes and shapes, *styli*, keys of different patterns, small shears or clippers, a mason's trowel, a hammer, a pair of compasses, a small anvil, and the heads of two javelins.

Several good examples of lead weights, including some for steelyards, complete the tale of the principal objects in metal.

[a] Professor Church, F.R.S., F.S.A., has kindly communicated the following note on this discovery: "My conjecture as to the nature of the orange-red crystalline substance found at Silchester proves to be correct. The material is realgar, arsenic sulphide (in chemical formula $As_2 S_2$). It is the Σανδαράκη of Theophrastus, the Sandaracha of Pliny. It occurs native (as a mineral) not only in India and China but in many European localities. Amongst the latter the most interesting to you are the Solfataras near Pozzuoli, Tolfa near Civita Vecchia, and Vesuvius. It was certainly employed in ancient paintings, but I do not recall any other use. I feel sure that it has never before been recognised (even if found) on any Roman site in Britain. Realgar has long been prepared artificially, but I am inclined to think the Silchester material is the native mineral."

Besides the pottery already mentioned, a considerable number of perfect or nearly perfect vessels of other well-known kinds was found. One of these was a fine bowl of unusual form (see fig. 6), ornamented on the outside with a triple band of overlapping scales and covered with a greenish-yellow glaze; the bottom, as will be seen from the section, is bossed after the manner of some Greek vessels of a well-known type. Among the many fragments may be noted two pieces of a pseudo-Samian bowl of superior design, with a figure in a chariot drawn by a centaur, moulded in slight relief; also two heads of Mercury and (perhaps) Venus, modelled in high relief, from the sides of a vase of black glazed ware.



Fig. 6. Glazed bowl (and section) found in *Insula* XIV. (½ linear.)

The accompanying block-plan (fig. 7) shows the progress made in the excavation of the city.

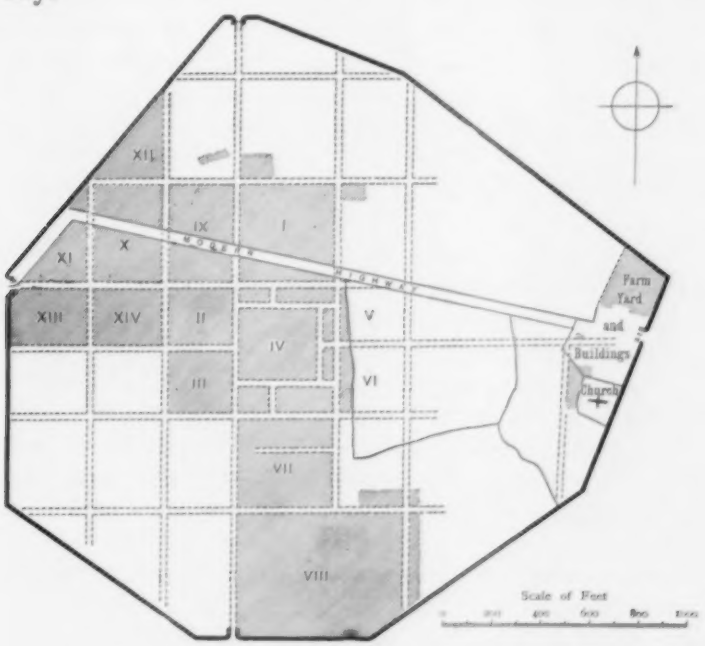


Fig. 7. Block-plan of Silchester, showing portions excavated down to October 1895.

APPENDIX.

Note on a Roman force-pump found at Bolsena, Italy, now in the British Museum.
By FREDERICK DAVIS, *Esq., F.S.A.*

Read March 26th, 1896.

A PUMP found at Bolsena, and now in the British Museum, of which a drawing in section (Fig. 8) is here given, is of the type known as plunger or force-pumps. This pump is identical in principle with that found at Silchester in 1895, though in some constructional details and in the material employed it does not correspond with the Silchester example.

The Bolsena pump consists of two bronze barrels (AA), 1¾ inch in diameter, disposed vertically and parallel to each other, connected at their lower extremities by branches at right angles to the barrels and by short horizontal ports or pipes (BB) to a central tee (C); this served the purpose of a clack-box or valve-chamber for an outlet valve for each barrel, and is provided with seats for those valves.

The two valves (EE) still occupy their proper position on their respective seats, but in consequence of corrosion are unmovable.

Of the two inlet valves and valve-seats, one valve (F) and one seat only (G) were found, but they are not in place, and were doubtless contained in chambers or clack-boxes jointed to the lower extremities of the barrels below the discharge branches.

The valves are of the type known as flap-valves, as contradistinguished from spindle or pot valves.

The water, after being discharged through the outlet valves, was delivered into the vertical member of the central tee, which was common to both pumps, and thence through a vertical pipe, which, though missing, was doubtless jointed to the spigot with which the vertical member of the tee is provided. This vertical delivery pipe would now be defined as the "rising main."

Corroded into each barrel is a bronze socket (HH) into which were fitted the plungers or pistons. These were probably of wood covered with leather, or if the Romans were cognisant of the self-lubricating quality of *lignum vitæ*, that material may have been employed without any covering of leather.

At the upper extremity of each plunger-socket is a lug or eye of quite modern design drilled to receive bolts or pins to which were attached the connecting or spear-rods.[a]

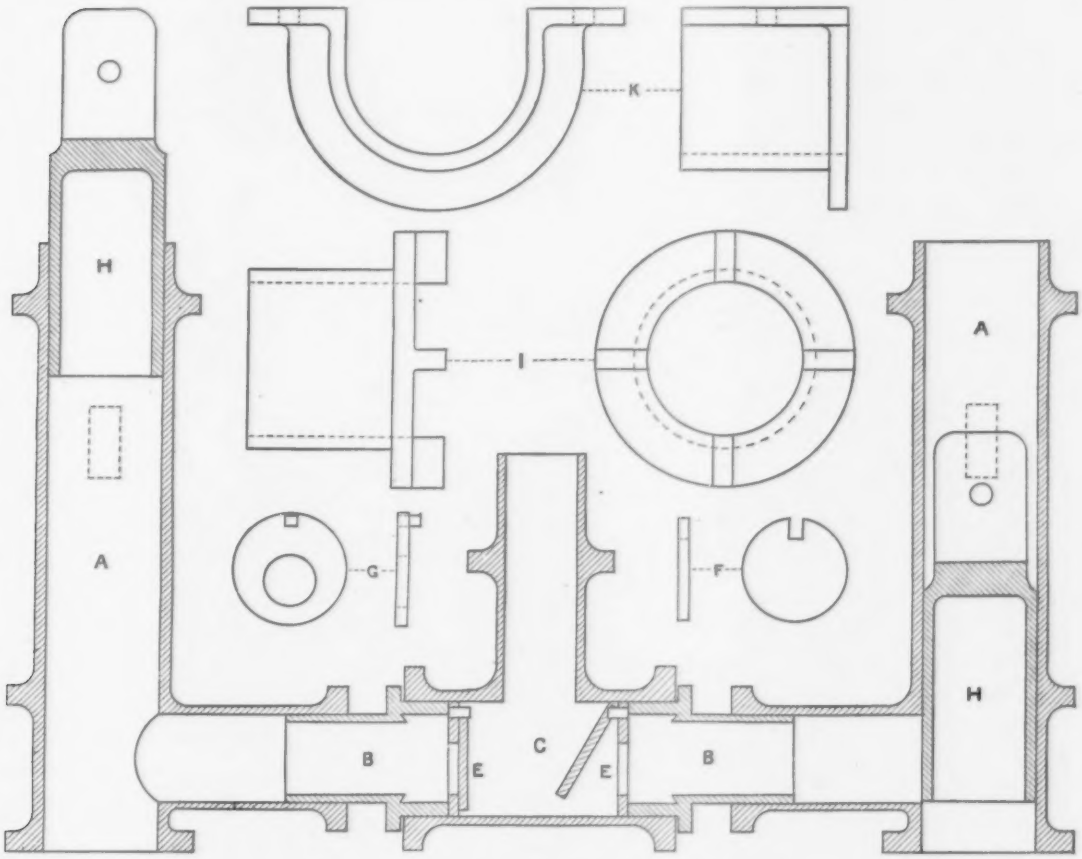


Fig. 8. Roman bronze force-pump found at Bolsena, Italy. Now in the British Museum. ¼ linear.

A reciprocating motion was given to the plungers through the connecting rods, and was doubtless accomplished by means of a beam on a rocking shaft or pivot.

With the Bolsena pump were found a bronze bush or boss (I), and a bracket or clip (K) which fits the bush. The bush doubtless formed the pivot of the wood beam, and the bracket as certainly served as the bearing on which the beam rocked.

In Smith's *Dictionary of Greek and Roman Antiquities* the pump invented by Ctesibius is illustrated by a diagram, from which it will be seen that this hypothetical illustration very nearly

[a] It may be noted that the plunger socket of one barrel has dropped to a lower position in the barrel than it would ever reach when in work, and has there become fixed by corrosion.

corresponds with the Bolsena pump. But in the diagram, through an error on the part of the draughtsman, the two valves of one barrel are shown open, the two valves of the other closed. Of the two valves of one barrel, the inlet should have been shown open and the outlet closed; of the two valves of the other barrel, the inlet should have been shown closed and the outlet open.

There is another pump to be seen at the British Museum, also found at Bolsena, of a more advanced type than the pump I have described. I have selected for illustration the one described as more nearly corresponding to that found at Silchester.

Rec^d Sept. 1896

No. 1704

ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY.

ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY,

PUBLISHED BY THE

SOCIETY OF ANTIQUARIES OF LONDON.

VOLUME LV.



LONDON:

PRINTED BY NICHOLS AND SONS, 25, PARLIAMENT STREET.

SOLD AT THE SOCIETY'S APARTMENTS IN BURLINGTON HOUSE.

M.DCCC.XCVII.

ARCHAEOLOGIA:

OR

MISCELLANEOUS TRACTS

RELATING TO

ANTIQUITY,

PUBLISHED BY THE

SOCIETY OF ANTIQUARIES OF LONDON,

SECOND SERIES. VOLUME V.



LONDON:

PRINTED BY NICHOLS AND SONS, 25, PARLIAMENT STREET.

SOLD AT THE SOCIETY'S APARTMENTS IN BURLINGTON HOUSE.

M.DCCC.XCVII.

DA 20
A65
V.55

TABLE OF CONTENTS.

PAGE

I.—*A Clerical Strike at Beverley Minster in the Fourteenth Century.* *By* Arthur F. Leach, *Esq., M.A., F.S.A.* - - - 1—20

II.—*Of the methods used in making and ornamenting an Egyptian Rock Tomb.* *By* Somers Clarke, *Esq., F.S.A.* - - - 21—32

III.—*On the Roman town of Doclea, in Montenegro.* *By* J. A. R. Munro, *Esq., M.A., F.S.A.*; W. C. F. Anderson, *Esq., M.A.*; J. G. Milne, *Esq., M.A.*; *and* F. Haverfield, *Esq., M.A., F.S.A.* 33—92

IV.—*Notes on the Cathedral Church of St. Cecily at Albi.* *By* R. W. Twigge, *Esq., F.S.A.* - - - - - 93—112

V.—*The Vases of Magna Graecia.* *By* Talfourd Ely, *Esq., M.A., F.S.A.* - - - - - - - 113—124

VI.—*On the more important Breeds of Cattle which have been recognised in the British Isles in successive periods, and their relation to other Archaeological and Historical Discoveries.* *By* T. McKenny Hughes, *Esq., M.A., F.R.S., F.S.A.* - - - 125—158

VII.—*The Battle of Bosworth.* *By* James Gairdner, *Esq.* - 159—178

VIII.—*On two fibulæ of Celtic fabric from Æsica.* *By* Arthur John Evans, *Esq., M.A., F.S.A.* - - - - 179—198

IX.—*On a Bronze Statuette of Hercules.* *By* A. S. Murray, *Esq., LL.D., F.S.A.* - - - - - - 199—202

X.—*Further Excavations in an Anglo-Saxon Cemetery at High Down, Sussex.* *By* Charles Hercules Read, *Esq., Secretary* - 203—214

XI.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1895. *By* W. H. St. John Hope, *Esq., M.A., and* George E. Fox, *Esq., Hon. M.A. Oxon., F.S.A.* - - - 215—256

PAGE

XII.—*On some Waxed Tablets said to have been found at Cambridge. By* T. M'Kenny Hughes, *Esq., M.A., F.R.S., F.S.A.* - - 257—282

XIII.—*Visitations of certain Churches in the City of London in the patronage of St. Paul's Cathedral, about the year* 1250. *By* W. Sparrow Simpson, *D.D., Sub-Dean and Librarian of St. Paul's Cathedral* 283—300

XIV.—*The House of Aulus Vettius, recently discovered at Pompeii. By* Talfourd Ely, *Esq., M.A., F.S.A.* - - - - 301—318

XV.—*The Prebendal Stalls and Misericords in the Cathedral Church of Wells. By the Rev.* C. M. Church, *M.A., F.S.A., Sub-Dean and Canon Residentiary of Wells* - - - - - 319—342

XVI.—*The Mausoleum at Halicarnassus. The probable arrangement and signification of its principal Sculptures. By* Edmund Oldfield, *Esq., M.A., F.S.A.* - - - - - - 343—390

XVII.—*On a votive deposit of Gold Objects found on the North-West Coast of Ireland. By* Arthur J. Evans, *Esq., M.A., F.S.A.* - 391—408

XVIII.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1896. *By* W. H. St. John Hope, *Esq., M.A.* - - 409—430

XIX.—*Notes on the Church of the Kalenders at Constantinople. By* Edwin Freshfield, *Esq., LL.D., Treasurer* - - - - 431—438

XX.—*The Dolmens and Burial Mounds in Japan. By* William Gowland, *Esq., F.S.A., Assoc. R.S.M., late of the Imperial Japanese Mint* - - - - - - - - 439—524

XXI.—*The Domus Inferior or Frary of our oldest Charterhouses. By the Rev.* Henry Gee, *B.D., F.S.A.* - - - - 525—530

Appendix.

1.—*A Sixteenth Century Mathematical Instrument Case* - - 531—533

2.—*Notes on a Silver Dish* - - - - - 534—536

LIST OF ILLUSTRATIONS.

PLATE		PAGE
I.	Rock-cut Tomb at Beni-hassan - - - facing	22
II.	Figures on a pier in the tomb of Seti I. at Thebes - facing	26
III.	Figures on a wall in the tomb of Seti I. at Thebes - facing	28
	Plan of Temple of Diana at Doclea - - - -	53
	Plan of Temple of Minerva, Doclea - - - -	54
	Plan of a large Church at Doclea - - - -	56
	Plan of a small Church at Doclea - - - -	60
	Window moulding, Civil Basilica. Base-course, Small Church	61
IV.	Plan of the Roman town of Doclea, in Montenegro - facing	92
V.	Ground-plan of the Cathedral Church of St. Cecily, Albi facing	94
	Illustrations of Breeds of Cattle, etc.:	
	Fig. 1. *Bison Priscus.* Barrington Gravel - - -	126
	Fig. 2. *Bison Priscus?* Dredged up off Yarmouth - -	128
	Figs. 3 and 4. Urus (*Bos primigenius*) found at Burwell Fen, Cambridgeshire, with a Neolithic flint implement sticking in its skull - - - - -	130
	Fig. 5. The Neolithic implement found sticking in its skull	130
	Fig. 6. *Bos longifrons.* Burwell Fen - - -	134
	Fig. 7. Romano-British type with horn-cores showing a tendency to turn up. Reach Fen - - -	136
	Figs. 8 and 9. Diagrams illustrating horn curvature - -	138
	Fig. 10. Roman Ox, from a painting in Pompeii - -	138
	Fig. 11. Modern Italian Bull - - - -	139
	Fig. 12. Chillingham Bull - - - - -	139

PLATE		PAGE
	Fig. 13. Egyptian Cattle in bas-relief on temple of Hatshepsu	140
	Fig. 14. Sicilian type with long upturned horns	140
	Fig. 15. Coin of Euboea	140
	Fig. 16. Modern Italian breed	141
	Fig. 17. Abergavenny Bullock	141
	Fig. 18. Swiss Mountain breed	143
	Fig. 19. Highland Cow, after MacWhirter	151
	Fig. 20. Horn-core from medieval ditch	153
	Fig. 21. Horn-core from ancient drain-lands, Epping Forest	155
	Fig. 22. Long-horn Cow. Hardendale herd	156
VI.	Plan of the Battle of Bosworth	facing 178
	Antiquities found at Æsica, etc:	
	Fig. 1. Silver Collar or Chain found in Æsica	179
	Fig. 2. Gold Ring found at Æsica	180
	Fig. 3. Bronze Ring with gnostic gem found at Æsica	180
	Fig. 4. Side, back, and front views of a Brooch found at Æsica	181
	Fig. 5. Bronze Brooch with retroflected foot caught by a free collar	182
	Fig. 6. Bronze Brooch with collar and bow in one piece	182
	Fig. 7. Sketch showing development of British *fibulæ*	183
	Fig. 8. Brooch of early Pannonian form	183
	Fig. 9. Gilt Bronze Brooch found at Æsica	187
	Fig. 10. Gallo-Roman Brooch in the collection of Sir John Evans	188
	Fig. 11. Brooch from Idria di Bača	188
	Fig. 12. Brooch from Selzen	188
	[a] Fig. 13. Bronze Armlet found at Stanhope, Peeblesshire	191
	[a] Fig. 14. Bronze Armlet found near Plunton Castle, in the parish of Borgue, Kirkcudbright	192
VII.	Gilt-bronze Statuette of Hercules found in Cumberland	facing 200
VIII.	Glass Vessel from a Saxon grave on High Down, Sussex	facing 206
	Fig. 1 Barbaric Bronze Head found in an Anglo-Saxon cemetery on High Down, Sussex	209

[a] These Illustrations have been kindly lent by the Society of Antiquaries of Scotland.

PLATE		PAGE
IX.	Saxon antiquities from High Down, Sussex - - facing	214
X.	Silchester.—Plan of *Insulæ* XIII. and XIV. - - facing	216
XI.	Silchester.—Plan of House No. 1, *Insula* XIV. - - facing	220
XII.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV. between	224—225
XIII.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV. between	226—227
XIV.	Silchester.—Mosaic Pavement from House No. 1, *Insula* XIV. between	228—229
	Fig. 1. Block of wood and lead cylinders found in a well or pit in *Insula* XIV. - - - - - -	232
	Fig. 2. Conjectural restoration of a Force Pump found at Silchester in *Insula* XIV. - - - - -	234
XV.	Silchester.—Plan of House No. 2, *Insula* XIV. - - facing	234
	Fig. 3. Fragment of a Capital found in House No. 2, *Insula* XIV. - - - - - - -	238
	Fig. 4. Bronze Figure found at Silchester - - -	239
	Fig. 5. Diagram showing restoration of pattern of a painted dado in House No. 1, *Insula* XIV. - - - -	250
	Fig. 6. Drawing and section of a glazed Bowl found at Silchester - - - - - - -	253
	Fig. 7. Block-plan of Silchester, showing portions excavated down to October, 1895 - - - - -	253
	Fig. 8. Section of a Roman bronze Force Pump from Bolsena, Italy, now in the British Museum - - - -	255
	House of Aulus Vettius, recently discovered at Pompeii:	
	Fig. 1. Ground plan - - - - - -	302
	Fig. 2. View of Room, showing disposition of the wall-paintings and mural decorations - - - -	305
	[a] Fig. 3. Lararium - - - - - -	306
	[a] Fig. 4. Wall-painting of the death of Pentheus - -	313
	Fig. 5. Wall-painting of Ixion bound to the wheel - -	315
XVI.	Misericords in the Cathedral Church of Wells - - facing	340
XVII.	Misericords in the Cathedral Church of Wells - - facing	340

[a] These illustrations have been reproduced, by kind permission, from *The English Illustrated Magazine* for January, 1896.

PLATE		PAGE
XVIII.	Misericords in the Cathedral Church of Wells - - facing	342
XIX.	Misericords in the Cathedral Church of Wells - - facing	342
	Fig. 1. Fragment of bench-end from the choir-stalls in the Cathedral Church of Wells - - - -	335
	Fig. 2. Stall Canopies and Panelling of the upper galleries formerly in the choir of Wells Cathedral Church - -	339
	The Mausoleum at Halicarnassus:	
	Fig. 1. Plan of the Pteron - - - - -	344
	Fig. 2. Restoration of the East Front - - -	346
	Fig. 3. Restoration of half the south side and half longitudinal section of the interior - - - -	347
XX.	Statues of Mausolus and Artemisia from the Mausoleum at Halicarnassus - - - - - facing	360
	Fig. 4. Figure of a Greek charioteer - - -	364
	Fig. 5. Marble Head from the Mausoleum at Halicarnassus -	375
XXI.	Gold Boat, Bowl, and Necklet found in Ireland - facing	391
	Fig. 1. Minor objects found with a votive Gold Boat on the North-West coast of Ireland - - - -	391
	[a] Fig. 2. Irish oar-blade found at Toome Bar - - -	392
	Fig. 3. Fastening of the larger Gold Chain or Necklace found in Ireland - - - - - - - -	394
	Fig. 4. Fastening of the smaller Gold Chain found in Ireland	394
	Fig. 5. Fastening of a Gold Collar found in Ireland - -	399
	Fig. 6. Gold Torque found at Serviés-en-Val, near Carcassonne - - - - - - - -	400
	Fig. 7. Plan of the fastening and scheme of ornamentation of a Gold Collar found in Ireland - - - -	401
	Fig. 8. Gold Collar in the collection of the Royal Irish Academy - - - - - - - -	405
XXII.	Gold Collar and Chains found in Ireland - - facing	402
XXIII.	Silchester.—Plan of *Insulæ* XV. and XVI. - - facing	416
XXIV.	Silchester.—Lesser Gateway in the west wall, with later partial blocking, discovered in 1896 - - - facing	426
XXV.	Silchester.—North side of the lesser west gate, showing also plinth and face of wall - - - - facing	428

[a] The Society is indebted to the Royal Irish Academy for the loan of this illustration.

PLATE		PAGE
	Fig. 2. Section of the city ditch by the lesser west gate at Silchester	427
	Fig. 3. Section of the Roman city ditch near Aldersgate, London	427
	Fig. 4. Plan of the foundations of a house uncovered to the south of Silchester parish church in 1896	429
	Fig. 5. Block plan of Silchester, showing portions excavated down to the end of 1896	430
[a] XXVI.	Mosque of the Kalenders at Constantinople, from the north-west	facing 431
[a] XXVII.	Capital in the Mosque of the Kalenders at Constantinople	facing 432
[a] XXVIII.	Capital in the Mosque of the Kalenders at Constantinople	facing 432
[a] XXIX.	Mosque of the Kalenders at Constantinople. Remains of the Ikonostasis (north side)	facing 432
[a] XXX.	Mosque of the Kalenders at Constantinople. Remains of the Ikonostasis (south side)	facing 432
[a] XXXI.	Mosque of the Kalenders at Constantinople. Details of the remains of the Ikonostasis	facing 432
[a] XXXII.	Mosque of the Kalenders at Constantinople. Details of the remains of the Ikonostasis	facing 432
[a] XXXIII.	Mosque of the Kalenders at Constantinople (east end)	facing 434
[a] XXXIV.	Ikonostasis from the church of St. Luke at Stiri	facing 436
[a] XXXV.	South side of the apse of the Kahrieh Djami (the Church of the Mone tes Choras) at Constantinople	facing 436
[a] XXXVI.	Marble Slab in the Mosque of the Kalenders at Constantinople	facing 438
[a] XXXVII.	Marble Slab in the Mosque of the Kalenders at Constantinople	facing 438
	[a] Fig. 1. Plan of the Mosque of the Kalenders at Constantinople	432
	[a] Fig. 2. Mosque of the Kalenders at Constantinople. Section on line A B of plan, looking south	434
	[a] Fig. 3. Mosque of the Kalenders at Constantinople. Section on line C D of plan	435

[a] The Society is much indebted to Dr. Edwin Freshfield for the whole of these illustrations to his paper.

PLATE		PAGE
	[a] Fig. 4. Mosque of the Kalenders at Constantinople. Section on line E F of plan - - - - -	437
XXXVIII.	Fig. 1. Interior of Dolmen at Hattorigawa (Kawachi), Japan; Fig. 2. External view of Dolmen at Hattorigawa (Kawachi), Japan - - - - facing	448
XXXIX.	Fig. 1. Front View of Dolmen at Miyōhōji (Yamato), Japan; Fig. 2. Dolmen at Dōmyōji (Kawachi), Japan - facing	450
XL.	Map of Japan - - - - between 472 and	473
	Figs. 1 and 2. Plans and sections of typical Japanese Dolmens - - - - - -	444
	Figs. 3 and 4. Plans and sections of typical Japanese Dolmens - - - - - -	445
	Fig. 5. Interior of Dolmen at Tsukahara (Settsu) -	447
	Fig. 6. Interior of Dolmen at Koshi (Yamato) - -	448
	Fig. 7. Dolmen at the village of Shiba (Kawachi) -	452
	Fig. 8. Dolmen containing a hewn-stone Sarcophagus at Abe-mura (Yamato) - - - -	454
	Fig. 9. Dolmen at Andogahashi (Yamashiro) - -	455
	Fig. 10. Double Mound near Nara (Yamato) - -	456
	Fig. 11. One of the terra-cotta tubes on the Double Mound near Nara - - - - -	459
	Fig. 12. Double Mound at Mise (Yamato) - -	461
	Fig. 13. Dolmen of hewn stones at Koshi (Yamato) -	465
	Fig. 14. Dolmen containing two stone Sarcophagi at Imaichi (Izumo) - - - - -	467
	Fig. 15. Terra-cotta Sarcophagus from a Dolmen at Sakuraidani (Settsu) - - - - -	470
	Figs. 16 and 17. Terra-cotta Sarcophagus and cover from Isokami (Bizen) - - - - -	472
	Fig. 18. Bronze Sword - - - - -	475
	Fig. 19. Bronze two-handed Sword - - -	475
	Fig. 20. Bronze Arrow-heads - - - -	476
	Fig. 21. Magatama - - - - -	478
	Fig. 22. Metal ornaments of Horse Trappings - -	480

[a] The Society is much indebted to Dr. Edwin Freshfield for the loan of this illustration to his paper.

PLATE		PAGE
	Fig. 23. Spindle Whorl - - - -	481
	Fig. 24. Iron Swords of the Dolmen period - -	483
	Fig. 25. Swords with ornamental mounts - -	484
	Fig. 26. Sword Guard of gilt copper - - -	485
	Fig. 27. Iron Arrow-head - - - -	485
	Fig. 28. Iron Cuirass and Helmet - - -	486
	Fig. 29. Horse Bits, Rokuya Dolmen - - -	487
	Fig. 30. Ornamental appendages of the Trappings of Horses - - - - - -	488
	Fig. 31. Other ornaments of Horse Trappings - -	488
	Fig. 32. Stirrup-irons - - - - -	489
	Fig. 33. Penannular Ring. Copper plated with gold -	489
	Fig. 34. Portion of a band of gilt copper worn attached to the dress - - - - - -	491
	Fig. 35. Shoes of gilt copper - - - -	491
	Fig. 36. Terra-cotta Vase (hand-made) - - -	492
	Fig. 37. Terra-cotta Vessels (wheel-made) - -	493
	Fig. 38. Chief Types of the Pottery of Class II. from Dolmens - - - - - -	496
XLI.	Ornamental Pottery - - - - - facing	498
	Fig. 39. Ornamental Vase (Bizen) - . -	499
	Fig. 40. Terra-cotta Female figure (*Tsuchi-ningyō*) -	501
	Fig. 41. Terra-cotta Male figure (*Tsuchi-ningyō*) -	501
	Fig. 42. Terra-cotta Horse - - - -	502
	Fig. 43. Stone Figure from a Dolmen mound - -	503
XLII.	A Sixteenth Century Mathematical Instrument Case (Front and Side Views) - - - - - facing	531
	Device on top of a Sixteenth Century Mathematical Instrument case - - - - -	531
	Maker's name on a Sixteenth Century Mathematical Instrument Case - - - - -	532
XLIII.	Set of Mathematical Instruments of the Sixteenth Century facing	532
XLIV.	Silver Dish from the Hindu Kush - - - facing	534

XII.—*On some Waxed Tablets said to have been found at Cambridge.*

By T. M'Kenny Hughes, *Esq., M.A., F.R.S., F.S.A.*

Read June 20, 1895.

Close to the inner margin of the King's Ditch at Cambridge, which until quite recently was the only ditch known to exist, excavations were lately made for the foundations of Messrs. Fosters' new bank. The ditch which runs along Hobson Street was only just touched, but there was at this spot a large quantity of sand and gravel. This had apparently been thrown out of the ditch, which here skirted the edge of an extensive gravel bed. No water passed through this dry subsoil from any side, and the area was soon built over, so that no rain fell into it. These were, therefore, conditions very favourable for the preservation of perishable materials.[a]

Among the large quantity of fragments of pottery and other antiquities which were discovered during the excavations was the set of tablets which forms the subject of this paper. It is not improbable that the tablets may have had a case[b] which would have protected the wood and wax inside for a very long time. They were brought to me by a workman, who told me whereabouts he had found them, and I saw no reason, from their state of preservation or from the character of the objects said to have been found associated with them, to doubt the accuracy of the information he gave me.

[a] *Proceedings of the Cambridge Antiquarian Society*, viii. 41.

[b] See below, pp. 260, 261.

This codex,[a] or set of tablets fastened together, consists of six pieces, that is to say, there are four[b] leaves incised on both sides, and two covers incised on the inside only.

Du Méril[c] has collected many references to the number of pages in the waxed tablets used for "albums" or note books in the eleventh and twelfth centuries.

Baldric,[d] abbot of Bourgueil in Anjou, has left the following interesting description:

> Attamen in vobis pariter sunt octo tabellæ
> Quæ dant bis geminas paginulasque decem.
> Cera namque carent altrinsecus exteriores,
> Sic faciunt octo quattuor atque decem.

That is to say, the eight leaves gave sixteen pages; but, as there was no wax on the outside of the cover, there were only fourteen pages available for writing on.

He adds that the Roman note-books were not so large, quoting Plautus:[e]

> Novi edepol nomen, nam mihi istoc nomine,
> Dum scribo, explevi totas ceras quattuor.

The codex in the tomb of Jucundus[f] appears to have had four leaves. Those found at Memphis and in the tomb of Soteris had five, like that of which Martial[g] speaks:

> Quinquplici cera cum datur auctus [altus] honor.

The Cambridge specimen has therefore rather a large number of pages, viz. ten, not counting the outsides, and it is not certain that I secured all there were.

The form of the tablets has been described by various writers. Pignoria[h]

[a] Seneca, *De Brevitate Vitæ*, 13.

[b] By some mistake the number of leaves is given as *two* in the original notice of the discovery, probably by repetition of the word *two* from near the beginning of the same line.

[c] *De l'usage non interrompu jusqu'a nos jours des tablettes en cire* (Paris, 1862), 103, 104.

[d] Mabillon, *Librorum de Diplomatica Supplementum*, 51.

[e] Curculio, 409, 410, ed. Teubner.

[f] Wilthemius, *Diptychon Leodiense, Append. de Pugillaribus Veterum.*

[g] *Epigrammata*, bk. xiv. ep. 4.

[h] *De Servis*, Amst. 1674, p. 220; see also Saumaise, *De Modo Usurarum*, p. 460, Leyden, 1639; Wilthemius, *Diptychon Leodiense, Append. de Pugillaribus Veterum;* Schwarz, *De Libris plicatilibus Veterum*, Altorph, 1717; Walch, *De Pugillaribus Veterum*, Iena, 1756.

says, "Pugillarium vero forma fuit oblonga et quadrata, eminente quadam margine circumcirca conclusa ut vidimus Romæ in veteri arca sepulchrali, in hortis Cyriaci Matthæi."

Our Cambridge codex measures a little more than $2\frac{1}{4}$ inches in length by $1\frac{1}{4}$ inch in width; the thickness of the covers being about $\frac{1}{8}$ of an inch, and of the middle part of the leaves sometimes not more than $\frac{1}{30}$ of an inch, but we must allow for shrinkage.

The incised portion of most of the pages is still covered with a black wax-like substance.[a] Unfortunately there had been an attempt to clean them before they were brought to me, and most of the wax was removed either then or previously. On some of that which remains characters, apparently inscribed with a style, are still visible.

The writing appears to be in a cursive hand, and here and there a few letters seem to lend themselves to the terminations of some Latin verbs, but they have been obscured by the accidental cracks in the wax originating in and prolonging the lines of the incised letters, and perhaps sometimes following the lines of older writing partly erased, so that no one has yet been able to decipher it. Professor J. B. Mayor reads the ending "cit" and the word "licentiam" on one of the leaves.

These tablets agree very closely with those in the library of St. Germain de Prés described below.[b]

The remains associated with the Cambridge tablets I referred to the late thirteenth or early fourteenth century.[c] The French examples which so closely resemble them range in date from 1256 to 1308.[d]

Tablets were made of various kinds of wood: box,[e] beech,[f] sycamore,[g] maple,[h] lime,[i] lemon,[j] pine,[k] cedar, which were often stained of different colours,[l] and

[a] See below, p. 264.

[b] Pp. 273, 274.

[c] *Proceedings of the Cambridge Antiquarian Society*, viii. 42.

[d] See below, p. 273.

[e] Du Méril, *op. cit.* 92; *Ambr. Traversarii Epp. ed. Mehus*, A.D. 1430, pp. 300, 534; Propertius, iii. 23, 8; *Aurelius Prudentius peristephanon hym.* ix. v. 49, p. 385 ed. Dressel.

Martianus Capella, *De Nuptiis Mercurii et Philologiæ*, bk. iii. p. 258; ed. Kopp "*cera fago illita.*"

[f] The Memphis tablets.

[g] Ovid, *Amorum*, bk. i. xi. 28.

[h] Dion Cassius, bk. lxvii. c. 15; bk. lxxii. c. 8.

[i] Martial, *Epigr.*, bk. xiv. ep. 3.

[j] Plautus, *Persa*, v. 248.

[l] Asconius, *in Ciceronem*, 56.

were ornamented in horn, ivory, and the precious metals. Some of the tablets were made of ivory,[a] or even of metal. Sometimes the covers only were of ivory, which was often richly carved[b] and mounted in silver and gold.

The Cambridge tablets were made of a close-grained hard wood, but as they showed no holes for string or any marks of clasps or other fastening attached to the wood it seems probable that they were enclosed in a case,[c] and there would have been some means of fastening this up and perhaps attaching it to the girdle.

The "wax" had to be carefully compounded, for ordinary wax alone does not readily lend itself to such uses. It was probably mixed with pitch, or some resin; when tar was unknown.[d]

The tabletiers[e] of Paris formed a sort of guild or recognised body of tradesmen and were forbidden to mix tallow or other inferior material with the wax.

Dreyhaupt[f] has given the receipt for the composition which was used in the renewal of the Lehn tafel in 1681.

The preparation should be somewhat softer than wax, but in almost all old specimens it has got hard and crumbled away.

On some tablets of late date, however, the wax remains soft, as in the case of those from Ratisbon, now in the National Museum at Munich, or some of the later specimens from Halle, on which the wax is too soft and does not properly adhere to the wood. For this reason highly polished wood or metal was less suited for tablets than material having a rougher surface to which the soft wax would readily adhere.

The Cambridge tablets are covered with a black wax-like composition now dry and hard, cracking and flaking off. I hope to have some of it analysed, but wait for further advice before I remove any portion for this purpose.

Du Méril calls attention to the distinction between *ceratæ* and *cereæ*, quoting Jean de Gênes, a writer of the thirteenth century, who, in his *Catholicon*, remarks,

[a] Martial, bk. xiv. ep. 5.

Demosthenes, *Opera*, 1132; Bekker, *Anecdota*, i. 278; Du Méril, *op. cit.* 90; Thompson, 19.

[c] *Corpus Inscript. Latt.* iii. 922, 938.

[d] Pollux, *Onomast.* x. 57.

[e] Pollux, *Onomast.* viii. c. 58; Étienne de Boileau, *Livre des Métiers*, (ed. Depping, 1837), 173; Book of Rates (Stenerolle); De Boileau, *op. cit.* 173.

[f] *Beschreibung des Saalkreises*, s. 105.

"Ceratus et Cereus differunt quia Cereum est quod totum ex cera constat, sed Ceratum quod vel linitum vel incrustatum est cera, unde Ceratæ dicuntur tabulæ in quibus scribitur."[a] But he was only explaining why *ceratæ* was the proper word to apply to them as it does not appear that they were ever made wholly of wax.

The composition is, however, in common language, spoken of as wax, and the tablets called waxed tablets or, for short, wax tablets.

John Ruysbrock, 1381, wrote "in tabula cerea."[b]

Said to have been found in the same place, and brought with the tablets, were a small brass chain and clasp such as would have served to suspend the tablets, or more probably the ornamented leather case or perpendiculum which held them suspended from the girdle after the manner of a chatelain.[c] The folded plate is enlarged at the back into a socket much like that intended to hold the pencil in modern diaries and pocket-books.

Some tablets containing merchants' accounts of the end of the thirteenth or the beginning of the fourteenth century were found in a hole in the outside wall of a tower in the house of Camillo Majorfi, at Florence. They were of beechwood, coated with black wax and had a place for inserting the style.

The leather cases for keeping the tablets in were frequently mentioned. They appear to have varied much in pattern and amount of ornament: "sicut videtur in tabulis Scotorum."[d] Baldric[e] speaks of the little bag given to him by the abbot of Séez for the same purpose.

There was also found with the Cambridge tablets a small metal case, about $1\frac{1}{4}$ inch in length and tapering from $\frac{1}{2}$ to $\frac{1}{4}$ inch in diameter. This enclosed the remains of some coarse hair stuff. It is ornamented round the thicker end with fan-shaped *repoussé* work and, at a little less than $\frac{1}{2}$ inch from the existing end, has a line impressed all round, on either side of which is a series of holes, some of which are still filled with small lead plugs. This object may have had a style at one end, and at the other a rubber for smoothing the wax,[f] as referred to in the expression *vertere stilum*, and more fully in the lines

[a] Du Méril, 112.

[b] Toppens, *Bibl. Belg.*, ii. 721; Henr. a Pomerio.

[c] *Sitzungsberichte der Münchener Akademie*, 1873, s. 720. Sacken, *Die Ambraser Sammlung*, ii. 258. Aldhelm, *Anzeiger der Vorzeit*, vii. 38; *Opera (ed. Giles)*, 263; Du Méril, *op. cit.* 95, note 1.

[d] Cod. St. Gall., 242, v. 3.

[e] Mabillon, *Suppl.* 51.

[f] Suetonius, s. v. Caius, ch. xx.; s. v. Augustus, ch. lxxxv.

> De summo planus, sed non ego planus in imo:
> Versor utrimque manu, diverso et munere fungor:
> Altera pars revocat quidquid pars altera fecit.[8]

If, however, the hair stuff was originally the outside material and not mere padding, this may have been the equivalent of our pen-wiper and been used for cleaning the point of the style.

It must have been a very common and well-known thing that could impress on the languages of Europe such a variety of words, the secondary uses of which go on for ever.

We speak, not only of a man's style of writing, but his style of delivery, or even his style of dress; while the French, taking the Latin form of the Greek word, are quite familiar with the use of *graiffe* or *greffe*, though with changed meaning. The instrument for writing which succeeded the style has hardly left any mark, except on the language of slang, in such expressions as "quill driver," for one much given to writing, such as a lawyer's clerk, and already the quill is almost superseded by the steel pen.

In such a climate as ours, it is only in very exceptional circumstances that we could expect to find objects of wood, and wax, and leather remaining undecomposed in the ground for any length of time.

The Cambridge tablets were buried in dry sand, cut off from water runs or falling rain. Some Irish specimens were found in peat, the antiseptic property of which is known to preserve organic matter from decay. Mineral waters are said to have helped to preserve the tablets found in the Transylvanian mines, though I have been unable to learn how; perhaps they were coated with travertine, or perhaps the waters were strongly impregnated with iron, converting the wood into something like bog oak.

Though actual specimens of wax tablets have never been found in this country, and our Cambridge codex seems to be quite unique, there is plenty of evidence of their use from very early times, and it may, therefore, perhaps be useful to put together such notices as seem to refer to similar objects, pointing out in what particulars they agree or differ.

[8] Meursius, *Phædrus*, appendix, 1615, Symposius: Riese, *Anthol. Lat.*, I. No. 286.

St. Augustine[a] had on one occasion, contrary to his wont, taken parchment to write his letter on, and excuses himself for doing so in the following words: "Non hæc epistola sic inopiam chartæ indicat, ut membranas saltem abundare testetur. Tabellas eburneas quas habeo, avunculo tuo cum litteris misi. Tu enim huic pelliculæ facilius ignosces, quia differi non potuit quod ei scripsi, et tibi non scribere etiam ineptissimum existimavi. Sed tabellas, si quæ ibi nostræ sunt, propter hujusmodi necessitates mittas peto."

There is evidence that wax tablets were used among the Anglo-Saxons. In the seventh century, or the early part of the eighth, Aldhelm[b] makes the pugillar the subject of one of his riddles. In the *Benedictional of Aethelwold*, written in England towards the close of the tenth century, is a picture of Zacharias (Luke i. 63) writing with a style on a large wax tablet.[c] He is portrayed in the same way in the *Psalter* of Bishop Warmund, of Ivrea, and many other places. One of the companions of St. Boniface sent a silver style (*graphium argenteum*) as a present to the Abbess Eadburg.[d] In Wright's *History of Domestic Manners and Sentiments in England*,[e] there is a representation of an Anglo-Saxon with wax tablets.

There is a curious story told of John Erigenes, a monk at Malmsbury, being killed by the boys whom he was teaching, which shows us at any rate that it was considered a usual thing for each boy to have a style.

"Munificentia regis Anglorum Elfridi electus (Johannes Scotus) venit in Angliam, et apud monasterium Malmesberiense a pueris quos docebat, graphiis, ut fertur, perforatus etiam martyr æstimatus est."[f] So also St. Felix.[g]

There are many examples of this use of the style for attack or defence, notably that of Cæsar mentioned below.

Eadmer says, that Anselm,[h] archbishop of Canterbury (1109), habitually wrote the rough sketch of his works upon wax tablets.

[a] *Ep.* 15, alias 113, *ad Romanianum*, *Opera ed. Maur*, ii. 19; Migne, *Patrolog. Lat.* xxxiii. 80; Wattenbach, *Das Schriftwesen im Mittelalter*. 2nd ed., Leipsig, 1875, p. 45.

[b] Gesta, 709; *Anzeiger der Vorzeit*, vii. 38; *Opera (ed. Giles)*, 263; Wattenbach, *op. cit.*

[c] *Archæologia*, xxiv. pl. 27.

[d] Boniface, Ep. 75 (ed. Jaffé); Wattenbach, *op. cit.*; Du Méril, 94; *Maxima Bibliotheca Veterum Patrum*, xiii. 73.

[e] London, 1862, pp. 96, 439.

[f] Albericus, *Trium Fontium*; *Chronicon*, *Ann.* 878.

[g] B. 1, *fonds de St. Victor*, No. 12, fol. 29 col. 2; Du Méril, 101

[h] *Life of Anselm*, Book I. p. 6, ed. D. Gerberon.

In Chaucer we read:

> His felaw had a staf tipped with horn,
> A pair of tables all of ivory,
> And a pointel ypolished fetisly.[a]

and further on

> He planed away the names everich on,
> That he before had written in his tables.[b]

Du Méril[c] not catching our use of *all* in the above passage, as in the expression "a knight all gold," quotes the lines:

> Et quand à l'escole venaient,
> Les tables d'ivoire prenoient.
> Adonc lor véissiez escrire
> Letres et vers d'amors en ivre.[d]

and remarks in a note[d] "Cela prouve qu'il ne faut pas prendre à la lettre les vers de Chaucer 'His felaw . . . . fetisly.' Le fond des tablettes était en cire."

That rough accounts were entered on wax tablets and afterwards more carefully copied out is clear from the Boke of Curtasye;

> At counting Stuarde schalle ben,
> Tylle alle be brevet of wax so greene
> Wrytten into bokes, without let,
> That before in tabuls have been sett.[e]

Baldric,[f] abbot of Bourgueil, 1107, and afterwards archbishop of Dol till his death in 1130, mentions his little tablet covered with green[g] wax for pleasantness to the eyes, not with black as was usual.

[a] *Canterbury Tales*, "The Sompnoures Tale," l. 7324.

[b] *Ib.* l. 7342.

[c] Du Méril, *op. cit.* 110

[d] Floire et Blanceflor, v. 251.

[e] MS. Sloane, ed. J. O. Halliwell (Percy Society), 22; ed. F. J. Furnival (E. E. T. S. O. S. No. 32), 316, l. 535.

[f] Wattenbach, *op. cit.*; Du Méril, *op. cit.* 103.

[g] Mabillon, *Librorum de Diplomatica Supplementum*, 51.

Du Méril notices that the tablets "qu'on a conservées dans les archives municipales de Hanovre sont d'un vert obscur, probablement sali par le temp."[a]

Red wax may have been also used. A medieval scholiast explains the *croceæ membrana tabellæ* "propter rubram ceram vel de buxo factæ."[b] We must, however, remember the custom of marking in red any passage to which it was thought necessary to call especial attention; hence *rubrics*.[c]

Tablets with writing in the Anglo-Saxon character of the fourteenth and fifteenth centuries were found in a bog in Ireland,[d] in which they were probably preserved by the peat.

St. Mochteus[e] was said to have been taught by means of a *ceraculum* brought by an angel, and Du Cange[f] quotes another passage, from which it appears that waxed tablets known as *ceracula* were used by Irish monks.

In the British Museum there are two roughly-made wooden tablets from Egyptian tombs, the inner sides of which are covered with a very thin layer of uncoloured wax.[g] Others with demotic writing are preserved in the Liverpool Museum.[h]

There are not many Greek tablets[i] known; a few are, however, to be found in the British Museum, the Bodleian Library, and some other collections. They are nevertheless known to have been used. For instance, it is recorded that the account of the expenses of building the Erechtheum was kept in the rough on waxed tablets, then copied on papyrus, and finally cut in marble.[k] There were various names for them: δέλτος, δελτίον, δελτίδιον, πτυκτίον, πυκτίον, πυξίον, πίναξ, πινακίς, γραμματειον; or they were named from the number of their leaves δίθυροι, δίπτυχα, τρίπτυχα, πεντάπτυχα, πολύπτυχα, each of which had its Latin equivalent,[l] and the Latinized word *diptycha*, corrupted into *diptica* and *dictica*, continued in use for writing tablets throughout the Middle Ages; the last word finally sug-

[a] Wehrs, *Vom Papier*, 30; Du Méril, *op. cit.* 104.

[b] Juvenal, vii. 23; *Catal. codd. Colon.* 145

[c] Du Méril, *op. cit.* 102.

[d] Todd, *Trans. R. Irish Acad.*, vol. xxi; *Antiquities*, p. 3.

[e] *Acta Sanctorum*, Life of St. Mochteus, Aug. iii. 743.

[f] Du Cange, *sub voce*; Du Méril, *op. cit.* 99.

[g] Rumpf, *Verhandlungen der Würzburger Philologen-Versammlung*, 1889, s. 239-246.

[h] Du Méril, *Etudes*, 89, 506.

[i] Montfaucon, *Pal. Græc.* 34; Thompson, *Encycl. Brit.* xviii. 143, *sub voce* Palæography; Homer, *Iliad*, vi. 169; *Thesmophoriazusæ*, 770-775; Pollux, *Onomast.* x. 57.

[k] Rangalié, *Ant. Hell.* I. s. 52, 80; Wattenbach, *op. cit.* 66.

[l] Martial, xiv. 4-6.

gesting a false derivation.[a] In an English vocabulary[b] of the fifteenth century we find "*diptica*, a small tabyle."

The Romans had their *tabulæ*, or *tabellæ*, or *cereæ*. Reference is frequently made to the *pugillares*, which were used for notes delivered by a messenger who brought the answer back on the same tablet.[c]

In 2 Kings xxi. 13, the completeness of the destruction of Jerusalem is illustrated by reference to the obliteration of writing on a wax tablet, and as this passage has been translated into one language after another through the ages, we see what terms were used in each :

"Delebo Jerusalem, sicut deleri solent tabulæ, et delens vertam et ducam crebrius stylum super faciem ejus," which in French of the twelfth century was rendered, "la destruerai e abaterai e aplanierai, si cume l'un sult planier tables de graife."[d]

Habakuk, ch. ii. v. 2 : "Et respondit mihi Dominus, et dixit scribe visum, et explana eum super tabulas."

Isaiah, ch. xxx. v. 8 : "Nunc ergo ingressus scribe ei super buxum."

Such writing material seems to have been commonly carried about. In a representation of the murder of Cæsar the conspirators hold styles in their right hands and in their left huge waxed tablets, and Cæsar,[e] trying to defend himself with one, stabbed Cassius in the arm with it. There are plenty of references in classic writers to writing on wax tablets, and many figures of speech are drawn from these necessary appliances and the customs connected with that mode of writing.[f] "You have given back its honey to the wax," exclaimed Eucherius on reading a letter from Honoratus.[g]

Ausonius dictated his works to a secretary who in the first place wrote them on wax tablets. Wright has illustrated the transcribing of wax tablets into a book by a reproduction from the fifteenth century tapestry at Nancy.[h]

[a] Du Cange, *sub voce* ; *Vocab. rerum de a.* 1433 ; *Mone. Anz.* viii. 251.

[b] Wright, *Volume of Vocabularies*, 1857, s. 210.

[c] Cicero, ad Fam., vii. 25 ; Seneca, Ep. 15.6 ; Propertius, I. ii. 22 ; Juvenal, ix. 36 ; and a scholiast quoted by Facciolati.

[d] *Livres des Rois*, 421 ; Wattenbach, 64.

[e] Jenenser, *Cod. ott. Fris.* ; Thompson, *Encl. Brit.* ; Seneca, *De Clementia*, bk. i. ch. xiv. ; Plutarch's Lives, *Caius Gracchus*, ch. xiii. p. 1003, ed. Didot ; Suetonius, *Caius*, ch. xxviii. ; Suetonius. *Julius Cæsar*, ch. lxxxii.

[f] Du Méril, *op. cit.*, 91, footnotes 4, 5.

[g] Hilarius of Arles ; De Sancto Honorato, *Oratio funebris*, Migne, p. 1261.

[h] *History of Domestic Manners and Sentiments in England*, 439.

In 1875 there were 127 wax tablets found together in a box under the ashes and the ruins of a house at Pompeii.[a] These were only documents referring to sales and taxes of little interest in themselves.[b] They differed from the Cambridge codex in that in the Cambridge tablets every available side, except the outside of the cover, was waxed, but in those from Pompeii several pages were of plain wood and some of these written on with ink. Indeed, as pointed out by Du Méril,[c] where the character of the tablet is not specified we have no right to assume that they were always waxed tablets. Not only have we examples of the waxed tablets but specimens of the styles used have been found at Herculaneum and elsewhere.[d]

Among the few specimens of Roman tablets preserved to our time are those which were discovered in the gold mines at Abrudbanyam, in the Siebenbürgen, Verespatak (Alburnus Major) in Dacia, Transylvania, where they appear to have been purposely hidden at the commencement of the war with the Marcomanni. Twenty-five of these are known and have been reproduced by Dr. Zangmeister.[e] One is dated 129, another 142, another 162, another 167.[f]

A bas-relief of the time of Trajan represents the burning of the tablets[g] on which the taxes were entered.

According to Du Méril, they are found in tombs of Gallo-Roman age,[h] and in Frankish cemeteries.

[a] Thompson, *op. cit.*, 19, 24-5.

[b] *Atti della R. Academia*, ser. ii. vol. iii. pt. 3, 1875-6, pp. 150-230; Hermes, vol. xii. 1877, pp. 88-141; Overbeck, *Pompeji*, 4th ed. by Mau, 1884, pp. 489 *et seq.*; Zangmeister, *Corpus Inscript. Latt. Pal. Soc.* i. vol. iii. pl. 159.

[c] Du Méril, *op. cit.* 90, footnote 5.

[d] *Ib.* 93.

[e] *Corpus Inscriptionum Latt.* iii. 933.

[f] Du Méril, *op. cit.* 88, Ciparin, *Archäologische Anzeiger*, No. lxxxviii. 1856; Detlefsen, Sitzungsberichte der K. Akad d. Wissenschaften Wien, t. xxiii. 636, 650; Erdy, *Mém. de l'Acad. Hongroise*, 1856, *et De Tabulis ceratis in Transylvania repertis*, Pesth, 1856; Massmann, *Libellus aurarius*, Lips. (1841).

[g] Du Méril, *op. cit.* 85; Massmann, Libellus aurarius, 4to, Leipsig (1841); Rechtswissenschaft, t. xii. cap. ii. pp. 173-219; *Monumenti inediti*, ix. (1872), t. 48.

[h] Du Méril, *op. cit.* 94; Cochet, *Normandie Souterraine*, 106, 107, 122, 132, 2nd ed.; Ladoucette, *Hist. et Topog. des Hautes Alpes*, 409, 412; Bonnin, *Antiquités Gallo-Romaines des Éburoviques*, pl. xxxvi. figs. 5 and 6; see also the specimen found at Héronval, in the Museum of Cluny; *Revue Archéologique*, New Series, i. 328; Claude de Molinet, *Cabinet de la Bibliothèque de Sainte Geneviève*, 22; Cochet, *Le tombeau de Childéric*, 215; Cochet, *Normandie Souterraine*, 298, 350; Corrard de Breban, *Mém. de la Soc. d'Agric. de l'Aube*, 1853.

In the sixth century St. Benedict, in the rules of his order, prescribed that the abbot should supply the monks with *graphium et tabulas*, while the obligation of having tablets ready for use is frequently mentioned, even as late as the fifteenth century.[a]

That they were in common use throughout the Middle Ages is evident, from references which took for granted that the readers understood all about them, and from the mention of presents of the tablets, or something useful in connection with them, as nowadays we give writing-desks, inkstands, or gold and silver-mounted pens.[b]

A good style or *graphium* was regarded then as a good pen is now by anyone who is fortunate enough to have one. Baldric, mentioned above,[c] wrote with the same style for ten years, and when at last it broke he bewailed its loss in a touching poem. This may have been the very pen which was made for him by Lambert of Angers.

Charlemagne[d] and those about him[e] used wax tablets, and it has even been supposed that the richly-ornamented ivory tablets, presented by Bishop Salomon of Constance to St. Gall, were the very ones which Charlemagne used[f]; and, though the fact that Charlemagne generally carried *tabulas et codicillos* has been questioned,[g] it was not on the ground that such things were then unknown or uncommon.

Shortly before the year 1120 Abbot Hariulf of Oudenburg, writing the life of Bishop Arnulf of Soissons, took down the words of his informant, Everolf, "in cera, ut ea atramento in chartis conscriberem."[h]

In 1148 Abbot Wibald writes to Pope Eugene, "Quæ vero post exitum nostrum acta sint, ex litteris, quas quidem frater Fuldensis nobis non in membrana scriptas, sed in tabella transmisit, cognoscere poteritis; quas ad vestræ sanctitatis pedes transcriptas direximus."[i] The letter could not well be sent to the Pope in this form, and was therefore transcribed and the copy enclosed.[j]

[a] Rockinger, *Zum baier. Schriftwesen*, s. 9; Wattenbach, *op. cit.*

[b] Seneca, Ep. lxxxvii.; Boniface, Ep. 75, Jaffé; Du Méril, 94; Wattenbach, *op. cit.* 15.

[c] Mabillon, *Librorum de Diplomatica Supplementum*, p. 51.

[d] Einhard, *Vita Kar.* c. 25; *Visio domi Karoli*, Jaffé, Biblioth. iv. 701.

[e] Theodulf, *Ad Carolum regem*, v. 148.

[f] Ekkehard, *Casus S. Galli.*, Mon. Germ. ii. 88; Wattenbach, *op. cit.* 53.

[g] Einhard, *Vita Caroli Magni*, ch. xxv.; Du Méril, *op. cit.* 99.

[h] *Acta SS.*, Aug. iii. 229.

[i] Jaffé, *Biblioth.* i. 221.

[j] Wattenbach, *Op. cit.* p.

In the fifteenth century, at Audechs, every monk was obliged to have in his cell "tabulam cereatam cum graphio."[a]

There are plenty of references to the use of wax tablets on the Continent throughout the middle ages, from the fifth to the fifteenth century, and less commonly to the seventeenth century, and in one case at any rate to the present day. We read also of a letter which was altogether concealed by the Abbot of Cahors, in 585, under the wax upon a tablet;[b] and of a slave, in 613, who had a tablet about him on which he stuck the pieces of a torn-up letter so that they could be read.[c] So that it is clear that the tablets continued in use as well as papyrus or parchment, and in fact they were generally employed only for memoranda of temporary interest, for schoolboys' exercises,[d] as they were in the time of Quintilian,[e] or for rough drafts of letters or other documents which were afterwards transcribed in ink.[f] Baldric mentions in one of his poems the two clerks who transferred his finished poems to parchment.[g] There are, however, cases recorded in which works of greater importance were written by their authors on waxed wood.[h]

Abbot Guibert, of Nogent (A.D. 1104—1124), in his autobiography, tells us how, in an old sewer connected with St. James's church school at Lübeck, wax tablets were discovered with fifth-century school exercises on them, and also some styles.[i]

[a] Rockinger, *Zum baier. Schriftwesen*, s. 9; Wattenbach, *op. cit.*

[b] Greg. Tur. vii. 30.

[c] Fredegar, *Chron.* c. 40; Wattenbach, *op. cit.* 55.

[d] Du Méril, p. 10; Wattenbach, *op. cit.* 58, 63; Th. Wright, *The Latin poems commonly attributed to Walter Mapes* (Camden Soc. 14), p. 130; "Pinax est manualis, ein hant-taphel," Diefenbach, *Gloss.* 213; Pugillar is similarly explained, s. 227.

[e] *De Institutione Oratoria*, bk. I. ch. i. 27 and bk. I. ch. iii. par. 31; see also Horace, *Sat.* i. vi. 74; Juvenal, *Sat.* i. l. 63 and *Sat.* xiv. l. 191; Martial, *Epig.* xiv. 21.

[f] Canisius, *Lectt. Ant.* vi. 648; Wattenbach, *op. cit.* 57; Keil, Erlanger, *Programm*, 1868, s. 20.

[g] Mabillon, *Librorum de Diplomatica supplementum*, 51; Wattenbach, 62.

[h] St. Nilus (1005 A.D.), *Acta SS.*, Sept. vii. 295; Mone, *Anz.*, vii. 505; Carmina Burana, e cod. Vindob., 3356, s. 251; Opera Hildeberti, ed. Beaugendre, p. 1623; Carmina Burana, p. 73; Eberhard of Bethune Laborinthus, iii. 292; French Romance of Floire at Blanceflor Édélestand du Méril; *Orologe de la Mort*, fourteenth century, Wattenbach, *op. cit.*, 64; Busch, 1478; Du Méril, 507, ex Chron. Windeshem, ii. p. 587; Engelhardt, 1818 *Hortus Deliciarum* of Herrad von Landsberg, 1167, 1195, pl. 8.

[i] *Zeitschrift des Vereins für Lüb. Gesch.* ii. 556; cf. *Anzeiger d. Germ. Mus.* 1866, Sp. 388; *Zeitschrift*, iii. 8.

They were still in use in Nuremberg in 1485.[a]

From the facility with which corrections could be made on wax tablets, they were used in schools down to a late period, just as slates are nowadays, and we find constant references to this in ancient writers.[b]

This was the reason why clerks and lawyers, and all who wanted opportunity for easy corrections, wrote their drafts on wax tablets. Wilibaldus wrote the first sketch of his Life of St. Boniface on wax that he might submit it for correction to two learned friends before copying it out finally.[c] So also what Everolph[d] dictated was first taken down on wax tablets. St. Bernard[e] and St. Anselm[f] wrote first, at any rate, on wax.

Tablets were also used for tracing designs and patterns. "Habeat autem discipulus ejus rudis tabellam ceratam vel ceromate unctam, vel argilla oblitam, ad flosculos pretrahendos et depingendos variis modis, ne in offensione procedat."[g]

There are examples of wax tablets and parchment being used together. The "Giltbachlein" of Nurenberg castle and the territories appertaining thereto, dating from the end of the fourteenth century, consists of eleven tablets, the front of each one divided diagonally and coated with wax, the back overlaid with parchment.[h] This reminds us of the tablets found at Pompeii, which were partly covered with wax on which the writing had been inscribed with a style, while some of the pages were of plain wood, which had been written on with ink.

A similar arrangement is seen, according to Wattenbach, on the wax tablets of the monastery of Unterlinden.[i]

When Abbo, abbot of Fleury, heard in 1004, in the priory of La Reolle on the Garonne, the noise of the riot in which he lost his life, he was seated at his

[a] Heerwagen, *Zur Geschichte der Nürnberger Gelehrtenschulen*, s. 6, in a programme of 1863.

[b] Martial, *Epig.*, xiv. 7; Jerome, *Epist.*, cvii; *Opera*, vol. i. col. 675, ed. Vallarsi; Isidori, *Originum*, lib. vi. ch. ix.

[c] S. Bonifacii, *Vitæ a Willibaldo scriptæ*. *Acta Sanctorum*, June, bk. i. p. 476.

[d] Surius, *Vitæ Sanctorum*, August, 156. *Cf.* Guibert de Nogent, *De Vita Sua*, bk. i. ch. 16; *Opera*, p. 477.

[e] Ernaldus, *S. Abbatis [Bernardi] Vita*, bk. ii. ch. 8; S. Bernardi, *Opera*, curis Mabillon, 4th ed. p. 2185.

[f] Eadmer, *S. Anselmi Vita*, lib. i. cap. 3; *Acta Sanctorum*, April, vol. ii. p. 872, col. 1.

[g] Wright, a volume of vocabularies, p. 118, *De utensilibus*.

[h] Baader, *Anzeiger des Germ. Mus.* xii. 101.

[i] *Revue d'Alsace*, 1872, s. 574; Wattenbach, *op. cit.* 73

accounts in the monastery, and came forth "pugillares gerens in manibus tabellas cum stilo."[a]

In 1029 the Bishop of Chartres[b] had an inventory taken of the treasures of the monastery of St. Père "in ceris, hoc est, in cereis tabulis."

In 1054 Hermann of Reichenau gave his "tabulas" to his pupil Berthold, to correct and copy whatever in them had not been already transferred to parchment.[c]

Radulfus Tortuarius, l. 1063, says in a poetical epistle to a friend:

> Nam cum missa mihi legissem verba salutis,
> Arripui ceres arripuique stylum.[d]

He complains that nowadays a poet meets with neither respect nor reward, and can not, in fact, get parchment to write on and hardly wax tablets. His stern abbot disapproved of his giving himself up to literary composition, and therefore he had to write on parchment, instead of, as was usual, first on wax tablets, on which he could have made alterations.[e]

Similar testimony to the use of wax tablets in the latter half of the twelfth century is incidentally offered by Reiner, a monk of St. Laurence, near Liège.[f]

Galbert, in 1127, giving an account of the events which occurred in connection with the assassination of Count Charles of Flanders and the siege of his castle at Brugge, says that he had to make his notes *in tabulis*, which he afterwards transcribed.[g]

Ancient MSS. and sculpture are quoted in illustration of the character of the tablets used in the *ordinarium* of Rouen cathedral; we read, "Qui ad missam lectiones vel tractus dicturi sunt, in tabula cerea scripti primitus recitentur."[h]

The most important, perhaps, of all the wax tablets which have survived from the middle ages are the accounts of the French Kings Louis IX. (1256, 1257), Philip III. (1282—1286), Philip IV. Le Bel (1301—1308), the originals of which

[a] Vita Auct. *Aimoins in Mab.* ed. Paris, vi. i. 55; Glab. Rod. iii. 3.

[b] Mab. *Annales Ordinis Sancti Benedicti*, lib. 56, iv. 352; Du Méril, 106.

[c] M. G. SS. v. 269.

[d] *Epist.* ix. 3; *Bibliothèque de l'École des Chartes*, 4me Sér. i. 512, see also 502.

[e] Guib. Novig., *de Vita Sua*, i. 16; *Opera* (ed. d'Achery), 477; Wattenbach, *op. cit.* 60.

[f] Reiner, *de Vita Sua*, ii. 2, 6, B; Pez. Thes. *Anecd.* iv. 3, 34, 37.

[g] *Mon. Germ.*, ss. xii. 580; Wattenbach, p. 66.

[h] *Ordinarium, Rouen*, ed. Jean Prevôt, 261.

are preserved at Florence, Geneva, and Paris.[a] They have been described of late years by MM. de Wailly and L. Delisle. An excellent facsimile, by Gustavus Barry, is given of the tablets of Louis IX., which surpasses even the older Benedictine facsimile of the St. Germain tablets of 1307.

In Franklin's[b] history of the library of Saint-Germain-des-Prés he mentions:

> Des tablettes de bois, enduite de cire. "Il y a," dit Dubreul,[c] "huict tablettes de bois, longues chacune de treize pousses et large de cinq, cirées des deux costez. Et sur la cire, de l'escriture faite avec le poinson ou burin proprement dit *graphium*. De laquelle une partie se peut encore lire. Qui nous monstre *quomodo veteres scribebant in ceratis tabulis.*" Ces précieuses tablettes renferment l'itinéraire de Philippe le Bel depuis le mois de janvier jusqu'en juillet 1307; elles ont été publiées par M. Natalis de Wailly, et le *fac-simile* de l'une d'elles a été reproduit dans le *Nouveau traité de diplomatique*.[d]

In the account of the Abbaye de Saint Victor[e] also, Franklin describes another similar volume of waxed tablets:

> Mentionnons enfin des tablettes de bois enduites de cire et mieux conservées que celles qui existaient à la bibliothèque de l'Abbaye de Saint-Germain des-Prés. "Ces tablettes," dit Leprince,[f] "sont composées de quatorze gros feuillets, y compris la couverture, dont la partie intérieure fait le commencement et la fin. Elles sont plus longues et plus larges que celles que l'on voit ailleurs. L'on n'y rencontre presque point de lacunes. Elles contiennent les dépenses faites par Philippe le Bel pendant une partie de ses voyages, depuis le 28 Avril 1301 jusqu'au 31 mars 1302."

Du Méril,[g] whose object was to prove the continuity of the use of waxed tablets from the classic age of Greece and Rome to and through the Middle Ages, draws his examples largely from France, and quotes from contemporary documents

[a] Du Méril, *op. cit.* 107; *Recueil des Historiens des Gaules et de la France* (1855 and 1865), xxi. 284-392; *Nouveau Tr.*, i. 468; Wattenbach, *op. cit.* 66.

[b] *Les Anciennes Bibliothèques de Paris*, par Alfred Franklin, i. 131, part of the *Histoire Générale de Paris*, 4to Paris, Imprimerie Impériale, 1867.

[c] J. Dubreul, *Théâtre des Antiquités de Paris*, 289.

[d] Tom. i. 468. Voyez encore une dissertation de l'abbé Le Bœuf dans les *Mémoires de l'Académie des inscriptions*, tom. xxxiii. de l'edition in-12. There is another facsimile in the *Musée des Archives*, 140.

[e] *Ibid.* 169.

[f] Leprince, *Essai historique sur la bibliothèque du roi*, 338; Voyez encore Jordan, *Histoire d'un voyage littéraire*, p. 72, et le *Nouveau traité de diplomatique*, i. 458.

[g] *Op. cit.* 109.

to prove the common use and knowledge of them in the twelfth, thirteenth, and fourteenth centuries. As the tentative date I am led to suggest for the Cambridge tablets is the latter part of the thirteenth, I shall quote the chief of his examples in order to show that such objects were likely to have been common at that date in such a town as Cambridge with its monasteries, colleges, and public works.

When Guillaume au Cornez[a] asked the abbot of Genres if he would receive him into his monastery the abbot inquired

Vos estes maistres, vos saves bien escrire?

to which Guillaume replied:

En parchemin et en tables de cire.

The translator of the *Miracles of St. Eloi*[b] in the twelfth, or perhaps thirteenth, century wrote:

Langemains, parchemins et chire
Fauroient ains c'on peust dire,
N'escrire ses fais, ne ses dis.

In the poem of *Gautier d'Arras*[c] Hercules says to Phocas:

Faites maitre votre briés en cire,
Sés trametes par vostre empire.

In *Floris and Lyriope*[d] we read:

Ce mestiers fust pour bien escrire
Et en parchemin et en cire.

and in *l'Orologe de la Mort*,[e] which is not earlier than the fourteenth century,

Les uns apprennent a escripre
Des greffes, en tables de cire;
Les autres suivent la coustume
De fourmer lettres a la plume,
Et paignent dessus les péaux
Et de moutons et de véaux.

[a] Moniage, v. 140, in B. de l'Arsenal, B.L.F. No. 185.
[b] Ed. of Peigné-Delacour, p. 79, col. 2.
[c] Eracles, ed. of Massmann, v. 1924.
[d] B. I. *fonds de Sorbonne*, No. 1422, p. 528, col. 2.
[e] B. I. *fonds de Sorbonne*, No. 7310[3], p. 30, col. 1. v. 4.

In the *Mystère de la Résurrection*[a] acted in 1491, the reply of the child tc the blind man, who asked him if he could read or write, was :

Oy dea ! en papier ou en cire.

Du Méril gives many other examples in which tablets or styles are referred to. I have quoted those only in which the wax is specially mentioned.

In the accounts of the municipality of Provins[b] during the thirteenth and fourteenth centuries there is frequent mention of waxed tablets.

Thomas a Campis relates how the scholars attracted to Deventer by the fame of Florentius made notes on wax tablets,[c] and in the library at Siena there are the sermons of St. Bernardine, which were taken down upon wax tablets by a pious cloth-shearer. This requires some further explanation, as it would not be easy to do this even in shorthand.[d]

Roppman gives reference to the waxed wooden folios on which the accounts of the Hamburg Exchequer were kept, 1360-1372,[e] and Rockinger records similar entries of expenditure dating from the fifteenth century in Bavarian Monasteries.[f]

Du Méril mentions that there were as many as fifty waxed tablets of medieval date in the Imperial library. There were also some at Dresden dated 1426; at Hanover 1428; and at Munich 1431 to 1442. Those in the Walraf Museum, Cologne, also belonged to the fifteenth century, while the two tablets of German origin preserved in the Imperial library cannot be referred to an earlier period than the first half of the seventeenth century.[g]

Entries of various kinds in churches and monasteries were kept on wax tablets,[h] the use of which was in some such cases carried on as late as 1722,[i] while the name, taken originally from the wax tablets, was still applied to these registers long after the material on which they were made had been changed.[k]

[a] B. I. *fonds de Sorbonne*, No. 972 (nouveau), fol. 49 vo.

[b] Bourquelot, *Bibliothèque de l'École des Chartes*, iv^me^ série, ii. 223.

[c] *Vita Florentii*, c. 23.

[d] Tabarrini, in *Archivio Storico*, Append. iii. 521-532.

[e] Entry I, 72, 88, 164.

[f] Rockinger, *Zum Baier. Schriftwesen*, s. 9.

[g] Du Méril, *op. cit.* 107.

[h] Du Méril, s. 108; Wattenbach, *Anzeiger des Germanischen Museums*, A.D. 1867, sp. 239 Cardinal Noris, *Dissertatio de Hist. Synod*; Bingham, *Orig. Eccles.*, lib. xv. ch. 13, sec. 18; Moroni, *Erudizione Storico-Ecclesiastica*.

[i] Lalanne, *Curiosités bibliogr.* 18.

[k] Du Méril, *op. cit.* 96, 97.

Tablets of the year 1358 have been described from Nordhausen[a]; and others from Goslar,[b] which were formerly considered to belong to the eleventh century, are referred by Wattenbach to the fourteenth.

The wax tablets at Janer[c] contain signatures of the year 1374, and those composing the day-book of the Leipsig town council[d] of about 1381 are preserved some at Leipsig and some at Schulpforta. A codex consisting of ten wax tablets at Weimar contains a summary of the revenue of the Leipsig council in the year 1420. At Dresden there is a Leipsig register of taxes[e] on wax dated 1426, and at Wittenberg ten tablets of the year 1428, which served the town council of Leipsig as a register of legal expenses.

Most of the municipal registers of Liegnitz[f] were destroyed by fire in 1338; those which are still extant date no further back than the last decade of the fourteenth century. One tablet of 1396 escaped destruction in the monastery of Sagan,[g] and from there passed to Breslau. Two tax registers of Umstadt, of 1389 and later, are now at Darmstadt.

The Erfurt table of expenditure dates from 1424 to 1426.

Some wax tablets in the Berlin library contain the accounts of the town council of Hanover[h] for 1428. These probably belong to the same series as the twelve tablets in the town hall of Hanover.

On the tablets now existing at Arnstadt[i] the costs discharged by the citizens in 1457 are recorded. Some fifteenth century accounts from Goetweih[k] are now in the Austrian museum, while others are preserved at St. Gall.

At Strassburg[l] the tablets containing the accounts of the common receipts and expenditure of the city (the Pfennigthurm accounts), which survived to the year 1500, are exhibited with other antiquities every year on the festival of St.

[a] *Zeitschrift des Harz-vereins*, 1874, s. 59-85.

[b] Wattenbach, *op. cit.* 71; Hercynisches, *Archiv.* (Halle, 1805), s. 138, ff.; Schoenemann, *Merkwürdigkeiten des Wolf. Bibl.* I. Hundert, s. 61; *Hansische Geschichtsbl.*, 1873, s. 6.

[c] *Zeitschrift für Geschichte und Alterthum Schlesiens*, ix. 95-100.

[d] Corssen, Professor W., *Neue Mittheilungen des thür-sachs. Vereins* (1864), x. 145-204.

[e] *Ib.* 359.

[f] Schirrmacher, *Urkundenbuch der Stadt Liegnitz* (1866), vii. ix.

[g] Pertz, *Archiv*, xi. 706.

[h] Wehrs (*Vom Papier*, Halle, 1789, s. 29-32).

[i] Hesse, *Arnstadts Vorzeit und Gegenwart* (Arnstadt, 1843); Serapeum, xxi. 357 to 359.

[k] *Anzeiger der Germanischen Museums*, xx. 79.

[l] Schilter, in the notes to his editions of Jacob v. Königshofen's Chronicle (1698), s. 441.

John Baptist. Some plain wax tablets from Polling[a] ranging in date from 1431 to 1442 are in the library of Munich. At Halle on the Saal the so-called "Lehmtafel," *i. e.* terrier of property in the salt springs, was written on wax tablets, a custom which lasted till the year 1783, when it ceased by royal warrant. At Halle in Swabia it survived till 1812.[b]

Du Méril[c] says that in the fish market at Rouen it is still the custom to dispose of the fish remaining unsold at the close of the market and to enter the result upon wax tablets, of which he subjoins a drawing.

Mabillon[d] led the way in the investigation of the use of wax tablets. The Abbe le Beuf[e] followed it up in his *Mémoire touchant l'usage d'écrire sur des tablettes de cire.* Edélstand Du Méril[f] wrote a treatise, *De l'usage non interrompu jusqu'à nos jours des tablettes de cire.* Massmann[g] and Hesse[h] also have contributed much valuable information. Wattenbach[i] has given a very full *resumé* of what had been written on the subject, especially referring to the above-mentioned authors; and in Thompson's *Palæography*, in chapter ii.,[k] "On Materials used to receive Writing," and that on "Writing Implements," a good review of the whole subject will be found.

I do not pretend to have any special knowledge of waxed tablets, but in the course of the researches which I made in order to learn whether there was any presumptive evidence for or against the date to which the associated objects seemed to refer the Cambridge tablets, I could find no full account or list of authors. I therefore made a note of such references as I came across or as friends gave me. I have not attempted to verify them further than I thought necessary for my own purpose, but as some day somebody may wish to follow up the work, I venture to place them on record as they are.

[a] Schmeller, see Dr. J. Sighart, *Abhandlungen des Königlich. bayer. Akademie* (1866), ix. 343-356; Rockinger, *Zum baier. Schriftwesen*, s. s. 8 and 9.

[b] Anzeiger, *der Germ. Mus.* ix. 95, x. 70; Homeyer, Hans und Hof-marken, s. 263; Du Méril *op. cit.* s. 113; Grátur Bragur, iii. 524; Petrus de Ludewig, *Vita Justiniani*, 185; Neue Mittheilungen des Thur.-Sachs. Vereins, ix. 444-460.

[c] Du Méril, *op. cit.* 112.

[d] Actt, iii. 2.

[e] *Mémoires de l'Académie des Inscriptions*, 1753, vol. xx.

[f] *Revue Archéologique*, 1860, Nos. 7 and 8; *Études sur quelques points d'archéologie et d'histoire littéraire* (Paris and Leipzig), 85-142.

[g] Lipsiae, 184.

[h] Serapeum, 1860, s. 353-377.

[i] *Das Schriftwesen im Mittelalter* (2nd ed. S. Hirzel, Leipzig, 1875), 44-74.

[k] *Handbook of Greek and Latin Palæography*, London 1893.

BIBLIOGRAPHY.

Æsop, Fable, clix. ed. de Furia.

Albericus, Trium Fontium Chronicon Ann. 878.

Aldhelm, Bibliotheca Veterum Patrum, xiii. 27.
Ib. 26. Anzeiger der Vorzeit, vii. 38.

Aristophanes, Wasps, 848.
Clouds, 770—772.
Fragm, 206.
Lysis, 1,200 (*ῥόπος*, for sealing).

Asconius, In Ciceronem, 56.

Atta (*in Isidorus*), Originum Bk. VI. ch. ix. 196, ed. Lindemann.

Augustine, St., Ad Romanianum, ep. 15, alias 113.
Opera, ed. Maur. ii. 19.
See Migne, Patrolog. Lat. xxxiii. 80.

Ausonius, Ep. cxlvi.

Avellino (*1831*), Bulletin de l'Institut Archéologique. Paris, 1831, p. 12.

Baader, Anzeiger des Germ. Mus. xii. 101.

Baluze, Charlemagne, "De tabulis vel codicibus requirendis," Cap. iii. 789, par. 4, *dan* Baluze Capitularia, vol. i. col. 243.

Benedict, Saint, chapter De Vestiariis et Calciariis Fratrum, in the Rules of St. Benet's Order.
Annales Ordinis Sancti Benedicti, iv. 352.

Bibliothèque Nationale (*1887*), Acad. des Inscriptions, Comptes Rendus, 1887, p. 141.

Bingham, Orig. Eccles., Lib. xv. 13, sec. 18.

Boethius, Consolatio Philosophiæ, ed. de Paris, 1680, bk. v. 340,.
Ib. 170.

Le Bœuf, Mémoires de l'Acad. des Inscriptions, tom. xxxiii.

Boileau, Etienne de Livres des Metiers, ed. Llepping, 1837.

Boniface, Ep. 75, ed. Jaffé.
Maxima Bibliotheca Veterum Patrum, xiii., p. 73.

Bonnin, Antiquités Gallo-Romaines des Eburoviques pl. 37, figs. 5 and 6.

Bordier (*1854*), Bulletin de la Société de l'Histoire de France, 1854, p. 141.

Bourquelot, Bibliothèque de l'École des Chartes, IV^e^ Série, ii. 223.

Breban, Corrard de (*1853*), Mémoires de la Société d'Agriculture de l'Aube, 1853, p. 568.

British Museum, Add. MS. 23, 215.

Canisius, Lectt. Ant. vi. 648.

Capella, Martianus, De Nuptiis Mercurii et Philologiæ, bk. III. 258, ed. Kopp; i 106; v. 461.

Chaucer, Canterbury Tales, The Sompnoures Tale, ls. 7324, 7342.

Cassius, Dion, Bk. LXVII. c. 15.
Bk. LXXII. c. 8.

Cicero, Ad. Fam., vii. 25.
De Divinatione, ch. vii.
Epist. ad Verrem, ii. par. 32.
Catil. iii. 5; xv. letter 14; xvi. letter 11.

Ciparin, Timotheus, Archäologische Anzeiger, 1856, No. lxxxviii.
In the programme of the Siebenbürg Gymnasium for 1855.

Cocchi, "Lettera critica sopra un manoscritto in cera," 17, on waxed tablets preserved at Florence.

Cochet, Le Tombeau de Childéric, 215.

„ Normandie Souterraine, 2nd ed. 106, 107, 122, 132, 298, 350.

Columella, De cultu hortorum, bk. x. l. 251.

Demosthenes, Opera: ed. Bekker: Anecdota, vol. i. p. 278.

Detlefsen, Dr. (*1858*), Sitzungsberichte der Wiener Akademie, *i.e.* Kaiserlichen Akademie der Wissenschaften, Wien, t. xxiii. 636—650; t. xxvii. 89—108 (1858).

Description of Greek document found in gold mines of Transylvania (Siebenbürgen).

Devéria, Théod., Catalogue des Manuscrits égyptiens écrits sur papyrus, toile, tablettes et ostraca, en caractères hiéroglyphiques, hiératiques, démotiques, grecs, coptes, arabes et latins, qui sont conservées au musée égyptien du Louvre, Paris, 1872.

Doni (*1753*), "De' dittici degli antichi profani e Sacri." 4to. Lucca, 1753.

Dreyhaupt, Joh. Christoph von, Beschreibung des Saalkreises, s. 105.

Dubreul, Theâtre des Antiquités de Paris, 289.

Ducange, Sub voce Ceraculum, Dyptycha, &c.

Eadmer, Sancti Anselmi Vita, Lib. I, cap. 3. Acta Sanctorum, Apl. ii. 872, col. 1.

Einhard, Vita Karoli, cap. 35; Visio domini Karoli, Jaffé, Bibliothèque, iv. 701.

Ekkehard, Casus S. Galli, Mon. Germ., ii. 88.

Erdy (*1856*), "De tabulis ceratis in Transylvania repertis," Mémoires de l'Academie Hongroise, 1856. Pesth. Agreement of purchase of slave.

Ernaldus, S. Abbatis [Bernardi] Vita, Lib. ii. cap. 8, s. 1.

Ferretius, Musæ Lapidariæ Antiquorum in marmoribus, Bk. II. 146.

Felton, Proc. American Academy of Arts and Sciences, iii. 371—378.

Dr. Abbot, of New York, possesses five wax tablets.

Festus, "De Verborum Significatione," ed. O. Müller, 359.

Franklin, Les anciennes Bibliothèques de Paris, i. 131.

Frédégaire, Chronicon, chap. xl. In Bouquet, ii. 429.

Gaius, ii. 104.

Garlande, Jean de, Liber de æquivocis, v. 435. See Leyser, Historia Poetarum medii ævi, 328.
Cf. Liber Burana, p. 250.

Gellius, Aulus, Noctes Atticæ, xvii. 9. Lib. ii cap. 12.

Gerhard, Auserlesene Vasenbilder, iii. 239; iv. 244, 287, 288, 289, 296.

Gesner, quoted by Du Méril, 99, 6.

Gratian, ch. xxiv. quest. ii. par. 6.

Grätur, Bragur, iii. 524.

Gregory, Gregory of Tours, De Gloria Martyrum, i. 43.
De virtutibus Sancti Martini, i. 14.

Guibert, Abbot of Nogent, De Vita Sua, bk. I. ch. 16. Opera, p. 477.

Habakkuk, ch. ii. v. 2.
"Scribe visum et explana eum super tabulas."

Hagenbuch, quoted by Du Méril, 99, 6.

Hase (*1852*), Réponse de M. Hase [à M. Lenormant sur les tablettes Grecques trouvées à Memphis], Revue Archéologique, 1852, viii. 471.

„ Léon Diacre, edited by Hase. Cabinet des Médailles No. iii. (intaglio of boy learning from tablet). Emaille, No. 1898.

Heliodorus, Aethiopica, ii. 11. Erotici Scriptores, Didot's edition, 252.

Heerwagen, Zur Geschichte der Nürnberger Gelehrtenschulen, s. 6.

Herodotus, Bk. VII. ch. ccxxxix. 385, ed. Didot.

Hesse (1860), Serapeum, 1860, Nos. 23, 24.

Heumann (quoted by Du Méril), 99, 6.

Hilarius (of Arles), Acta SS., Jan. ii. 20.
Funeral Oration on Honoratus. Life of Honoratus. Migne, Patrolog. Lat. l, 1261.
(a) "Mel, inquit [Eucherius], suum ceris reddidisti."

Homer, Iliad, vi. 169.

Horace, Bk. II. Sat. v. l. 51, 52.
Bk. I. vi. 74.

Huschke, "Ueber die in Siebenbürgen gefundenen Lateinischen Wachstafeln."
Zeitschrift für geschichtliche Rechtswissenschaft, t. xii. cap. ii. 173—219.

Isaiah, xxx. 8.
"Nunc ergo ingressus scribe ei super buxum."

Isidorus, Originum, vi. ch. ix. par. l.

Jerome, Epist. cvii. Opera, vol. i. col. 675 c. ed. Vallarsi.
Epist. viii.

Jordan, Histoire d'un voyage littéraire, 72.

Juvenal, Sat. i. l. 63, and Sat. xiv. l. 191.

Juvenal, Guido, Fol. 43 v°, Michel le Noir's edition 1502.

Kings, 21, 13.

Kratinus, quoted by (Thompson, 19, 5).

Labbe, Sacro-Sancta Consilia, ix., col. 354, cap viii. (Concile de Fimes Sancta Macra in 881), printed at Einhard.

Ladoucette, Histoire et Topographie des Hautes Alpes, 409, 412.

Lebeuf, Abbé, Mémoires de l'Académie des Inscriptions, xx. 267—309.

Leich (1743), De diptychis veterum. Lipsiæ, 1743. 4to.

Lenormant, Fr. (1852), Lettre à M. Hase sur les tablettes Grecques trouvées à Memphis.
Revue Archéologique (1852), viii. 461.

Laprince, Essai Historique sur la Bibliothèque du Roi, 338.

Letronne (1841), Journal des Savans, Sept. 1841, pp. 555—566.

Ludewig, Petrus de, Vita Justiniani, 185.

Luynes, Vases, 35 (quoted by Thompson, 21, 2).

Mabillon, Sancti Bernardi Opera, curis Mabillon, 4th ed., 2,185.
„ Librorum de Diplomatica, Supplementum, 51.

Maffei, Istoria Diplomatica, 32 *et seq.*

Marcellinus, Ammianus, Bk. XXVIII. ch. iv., 529, ed. de Valois.

Martial, Epig. xiv. 1.
Quinquiplices = Quincuplices. Epig. xiv. 3 (proof that tabella was sometimes used for a sheet of parchment). Epig. xiv. 5. Epig. xiv. 21. Epig. xiv. 7. Epig. xiv. 4, 6 (Multiplices). Epig. xiv. 8, 9 (Vitelliani).

Massmann, Prof. (1840, 1841), Libellus aurarius sive tabulæ ceratæ et antiquissimæ et unicæ Romanæ, in fodina auraria, apud Abrudbanyam, oppidulum Transylvanum, nuper repertæ, quas nunc primus enucleavit, depinxit edidit Johannes Ferdinandus Massmann. Lipsiæ, Weigel, in 4to. 1840, 4. *With facsimile.*
„ *(1846)*, Münchener Gelehrten Anzeigen, 1846, xxii. 49.
Defends genuineness of tablets impugned by de Wailly.
„ Gautier d'Arras, Eracles, v. 1924.

Du Méril, É. De l'Usage non interrompu jusquá nos jours des tablettes en cire. Franck, Paris, 1861, pp. 1—58, with a Plate.
Reproduced in 1862, Paris and Leipsig, in *Etudes sur quelques points d'Archéologie et d'histoire littéraire*, pp. 85—114.
[The rest of the paper is on survivals of Paganism.]

Milani, Pubbl. del R. Istituto di Studi Superiori.
"Sei Tavolette Cerate."

Molinet, Claude de, Cabinet de la Bibliothèque de Sainte Geneviève, 32.

Mommsen, De Collegiis et sodaliciis Romanorum, quotes Massmann on Latin wax tablets, 167 A.D., in gold mines of the Siebenbürger, Transylvania.

Moniage, Guillaume, v. 140, in B. de l'Arsenal B.L.F. 185.

Montfaucon, Antiquité expliquée, iii. Pl. 193.
„ Pal. Græc. 34.

Moroni, Erudizione Storico-Ecclesiastica.

Murr, Christophe de (1793), Mantissa ad inscriptiones extemporales classiariorum Pompeianorum. Lipsiæ, 1793.
„ Specimina antiquissima Scripturæ Græcæ tenuioris seu cursivæ ante imperatoris Titi Vespesiani tempora ex inscriptionibus extemporalibus classiariorum Pompeianorum. Lipsiæ, 1792.

Noris, Cardinal, Dissertatio de Hist. Synod.

Ordericus Vitalis, Ed. Le Prévost, iii. 7; ii. 94.

Overbeck, Pompeji, 4th ed. by Mau, 489—599.

Ovid, Artis amatoriæ, Bk. I. l. 437.
„ Amorum, Bk. I. El. xi. l. 27.
„ „ Bk. I. El. xii. l. 7.

Pagius, quoted by Du Méril, 99, 6.

Peign-Delacour, Miracles of St. Eloi, p. 79, col. 2.

Pfarrer, Ackner, Jahrbuch der Central Commission für Erhaltung der Alterthümer, i. 18. (Annual Report of the Central Committee for the Preservation of Antiquities.)

Phædrus, Meursius Appendix, 1615, Symposius.

Pignoria (1675), De Servis, Amsterdam, 1674. 220.
Figures of styles.

Plautus, Bacchides, Act iv. sc. iv. l. 680; 714, 748.
„ Curculio, 409, 410, ed. Teubner.

Plautus, Persa, 246.

Pliny the Younger, Epist. Bk. I. let. 6.
Historiæ Naturalis, xxxv. ch. 7.

Plutarch, Lives: Caius Gracchus, xiii. 1003, ed. Didot.
De sera numinis vindicta, 109, ed. de Wyttenbach.

Pollux, Onomast., x. 57, 58. In chapter περὶ βιβλίων describes the composition of the wax κηρός cera or μάλθα, μάλθη.

Prevôt, Jean (1250), Ordinarium of the Cathedral of Rouen, edited by Jean Prevôt.

Propertius, Elegies, Bk. I. 2, 22; 23, 7.
Non illas fixum caras effecerat aurum
Vulgari buxo sordida cera fuit.
Speaking of the laws of Solon, but cf. Aulus Gellius, ii. 12; and Codex Theodosianus, ii. 27.

Prudentius, Aurelius, Peristephanon hym. ix. l. 47; p. 385, ed. Dressel.

Quintilian, De Institutione oratoria, Bk. I. ch. 1, 27 and Bk. I. ch. 3, par 31.

Reiner, De vita sua, ii. 2, 6.

Riese, Anthol. Lat. i. 286.

Rockinger, Zum baier. Schriftwesen, s. 9.

Rumpf, Prof. (1869), Verhandlungen der Würzburger Philologen-Versammlung, 1869, s. 239—246.
British Museum tablets reproduced and explained.

Rüttiger, Kleine Schriften, ii. 103, 104.

Sacken, Die Ambrases Sammlung, ii. 258.

Salig (1713), De Diptychis veterum tam profanis quam Sacris; Halæ Saxonum. 4to. 1713.

Saumaise, Notes on Vopiscus; Tacitus, ch. viii.
(*Tabulæ* did not always mean wax tablets.)
„ De subscribendis et obsignandis testamentis, 271.
„ De Modo Usurarum, ed. Leyden, p. 460.

Scaliger, Animadversiones ad Guilandinum De papyro, 16.
Tabulæ (tablets) always meant waxed tablets.

Schwarz, De Libris plicatilibus Veterum, Altorphii, 1717.

,, De ornamentis librorum, ch. iv. p. vi. 137.

Seneca, De Clementia, Bk. I. ch. xiv.
Epistolæ, 55, 11.
Ep. 15.6; De brevitate vitæ, 13.
Ep. lxxxvii.

Silvestre, quoted by Wattenbach, p. 47.
On forged tablets described as genuine by Massmann.

Suetonius, Caius, ch. xxviii.

,, Caius, ch. xx.

,, Augustus, ch. lxxxv.

,, Nero, ch. lii.

,, Julius Cæsar, ch. lxxxii.

,, Nero, ch. xvii.; De Leg. iii. lex. 52.

Surius, Vitæ Sanctorum, August. 156.

Symmachus, Epist. Suppl.; Ep. vii. 302 (1604 ed.); see also Bk. ii. let. 81; Bk. V. let. 56; Bk. ix. let. 109.

Taylor, E. Fairfax (1876), Encycl. Brit. iv. 37, s. v. tablets.

Theodulphus, Ad Carolum Regem, v. 148, ed. Sirmond.

Thomas a Campis, Vita Florentii, c. 23.

Thompson, Ed. Maunde (1893), Handbook of Greek and Latin Palæography. London, 1893.

,, *(1885)*, Encyclopædia Britannica, xviii. 143, s. v. Palæography, "materials."

Todd, Transactions of the Royal Irish Academy, vol. xxi. Antiquities, p. 3

Toppens, Bibl. Belg. ii. 721.

Tortaire, Raoul (Radulfus Tortuarius), Bibliothèque de l'Ecole des Chartres, 4me Sér. I, 502, 512.
Epist. ix. v. 3.

Wailly, Natalis de, Nouveaux Mémoires de l'Academie des Inscriptions, xviii. ii. 548—558.

Wailly, Natalis de (1841), Journal des Savans, 555.
On forged tablets described as genuine by Massmann.

Walch (1756), De Pugillaribus Veterum, Ienæ, 1756.

Wattenbach, Neue Mittheilungen des Thür-Sächs Vereins, ix. 144—460.

,, *(1875)*, Das Schriftwesen im Mittelalter, 2nd ed. Leipzig, 1875.

Wehrs, Vom Papier, 30.

Welcker (1860), Rhein. Mus. N. F. (1860) xv. s. 155—158.
[See Felton.]

Wenzel, Prof. (1844), Schmidt's Oesterr. Blattern (1844), Band II. s. 33, 43, 52.
Defends genuine character of tablets described by Massmann.

Wibald, Abbot (1148), Jaffé, Biblioth. I, 221

Wilibaldus, (Acta Sanctorum), June, i. 476. "Sancti Bonifacii Vitæ a Wilibaldo Scriptæ Supplementum."

Wilthemius, Diptychon Leodiense, I. Appendix, De pugillaribus veterum.

Wordsworth (1837), Inscriptiones Pompeianæ.

Wright, Volumæ of Vocabularies, 1857, 210.
History of Domestic Manners and Sentiments in England, 1862, p. 439.

Zangemeister, Corpus Inscr. Lat
See Palæographical Society, i. Pl. 159, Pompeii.

Boke of Curtasye, MS. Sloane, ed. T. O. Halliwell (Percy Society), 22, ed. F. S. Furnival (E. E. T. S.), 316, l. 535.

Verhandl. der Philologen-Versamml. zu Würzburg, 1869, 239.

Révue Archéologique, viii. 461, 470.

Wax tablets in Bodleian Library, Oxford.

Proceedings of the American Academy of Arts and Sciences, iii. 371.

Annuaire de la Société Française de Numism. et d'Archéologie, iii. xxi.—lxxvii.

Hermes, 1877, xii. 88—141. (Pompeii tablets.)

Palæographical Society, i. Pl. 159. (Pompeii.)

Atti della R. Accademia de Lincei (1875—6), 2nd Ser. iii. pt. 3, 150—230. (Pompeii tablets.)

Musée Royal Bourbon.

Revue Archéologique, New Series, i. 328.

Pitture antiche d'Ercolano. iv. fig. 41.

Drawing in Museo Borbonico, 1, 2.

Catalogue of the Cluny Museum.
No. 1,809, fig. of a style.
No. 1,797, tablet found at Héronval.

Encycl. Brit. vii. 257, s. v. Diptych. 1877.

B. I. *Fonds de Sorbonne*, (α) Floris and Lyriope, No. 1422, 528, col. 2; (β) L'Orologe de la Mort, No. 7310^3, 30, col. 1, v. 4; (γ) Mystère de la Résurrection, No. 972, new fol. 49 v°.

XIII.—*Visitations of certain Churches in the City of London in the patronage of St. Paul's Cathedral Church, between the years* 1138 *and* 1250. *By* W. Sparrow Simpson, *D.D., Sub-Dean and Librarian of St. Paul's.*

Read January 16, 1896.

About the middle of the thirteenth century the Dean and Chapter of St. Paul's Cathedral Church made a minute and careful visitation of churches in their gift, lying in the counties of Essex, Hertfordshire, and Middlesex. The text of that visitation has been lately printed in a volume issued by the Camden Society.[a] The record of their proceedings is so copious that a clear and distinct account can be given of the ornaments, vestments, books, and plate belonging to these churches; and some insight can be gained into the relations which existed between the parishioners, the patrons, and the parish priest.

The visitations now for the first time printed are not so full and ample as could be desired. But so little authentic information is to be gathered about the furniture and ornaments of churches in the city of London at this very early period, that even these brief records may be acceptable to antiquaries.

The manuscript from which these inventories have been transcribed is one of very high importance. Mr. Maxwell Lyte describes it as "a fine volume, of which the earlier part was written in the middle of the twelfth century," and he devotes about eighteen columns of closely-printed matter to a calendar of its contents illustrated by very numerous extracts.[b] The book is known as Liber L, and the most important portions of it are now in print.

Archdeacon Hale edited some part of the manuscript, more particularly certain

[a] *Visitations of Churches belonging to St. Paul's Cathedral*, 1249—1253; and *Visitations of Churches, etc. in* 1297 *and in* 1458. Camden Society, 1895. Both edited by the writer of the present paper.

[b] *Historical Manuscripts Commission*, Report No. 9, p. 60, column 2, to p. 69, column 1.

visitations of manors in the year 1181, containing many important references to manorial customs:[a] but the visitations of city churches have hitherto escaped the printing press.

The manuscript volume has been in the possession of the church ever since it was written. In 1440, dean Lisieux compiled a catalogue of deeds and other evidences preserved at St. Paul's in various chests and coffers; it is entitled "Tabula extracta de evidenciis in Thesauraria sancti Pauli Londoñ per Magistrum Thomam Leseux Decanum Anno Domini 1440. Et nota quod litera alphabeti significat armariolum signatum exterius cum tali litera, et numerus sequens significat cofinum et pixidem signatum cum tali litera et tali numero;" from which the method of arrangement of the archives may be gathered. The armariola, aumbries, or closets, were marked each with a letter of the alphabet, whilst the chests or coffers contained in the armariola were designated by a numeral.

Dean Lisieux describes our manuscript thus: "Contenta in quodam antiquo et notabili Registro, de tempore Willelmi Conquestoris, clauso cum uno nodulo in medio, 2° folio in Rubrica *Privilegium*, signatus cum litera L."[b] The book in its present state answers to the description, except that the *nodulus* or button by which it was fastened has been removed, the loop, however, which surrounded the button still remains. The stout leather covering is very sound, and the word *Privilegium* occurs in red upon the second folio. "No part of it will bear out the statement of its very early date but the first twenty-six folios," says archdeacon Hale,[c] "the remainder of the book is of the latter part of the twelfth and thirteenth centuries." The inventories now to be described are written in a hand which from internal evidence of other dated documents in the same volume may be ascribed with fair certainty to the middle of the thirteenth century, probably to the year 1250.[d]

Twenty churches in the city were visited. The accompanying list gives the ancient names of the several parishes, together with the more modern forms of those names by which they are known to-day:[e]

1. S. Benedictus super Werham; St. Benet, Paul's Wharf.
2. S. Petrus parvus super Tamisiam; St. Peter, Paul's Wharf.
3. S. Michael de Macello; St. Michael le Quern.

[a] See the *Domesday of St. Paul's*, edited by Archdeacon Hale for the Camden Society, pp. 118-152.

[b] The pressmark of this manuscript is W. D. 11.

[c] Hale, *Domesday of St. Paul's*, preface, xiv. xv.

[d] Two inserted fasciculi, of a smaller size than the original volume, are of the fourteenth century.

[e] The churches are referred to in this paper by the numbers now prefixed to the several names.

4. S. Augustinus, Watling Street.
5. S. Antoninus; St. Antholin, Watling Street.
6. S. Thomas, Apostle; in Knight Rider Street.
7. S. Johannes super Walebroc; St. John, Walbrook.
8. S. Egidius; St. Giles, Cripplegate.
9. S. Maria de Aldresmanesberi; St. Mary, Aldermanbury.
10. S. Petrus de Bradestrete; St. Peter le Poor.
11. S. Helena, Bishopsgate.
12. S. Michael de Cornhithe; St. Michael, Queenhithe.
13. S. Benedictus de Gaischereche; St. Benet, Gracechurch.
14. S. Botulphus; St. Botolph, Billingsgate.
15. S. Martinus; St. Martin Orgar, in St. Martin's Lane, City.
16. S. Maria Magdalena in Melestrate; St. Mary Magdalen, Milk Street.
17. S. Johannes Zacharia, in Maiden Lane.
18. S. Maria Magdalena; St. Mary Magdalen, Old Fish Street.
19. S. Stephanus, Coleman Street.
20. S. Olavus in vico Judeorum; St. Olave, Jewry.

Of these twenty churches, eight are now standing (Nos. 1, 4, 8, 9, 10, 11, 14, 19); seven were destroyed in the Great Fire of 1666 (Nos. 2, 3, 6, 7, 15, 16, 17); one was burnt down in 1886 (No. 18); and four have been removed under the operation of the Union of Benefices Act (Nos. 5, 12, 13, 20).

In addition to these twenty inventories, three others have been added. These are found in the same manuscript, but are of an earlier date.

A. S. Michael de Æedreshuda, visited about 1138.

B. S. Helena, visited between 1160 and 1181.

C. S. Augustinus, visited at probably the same period.

It will suffice to give an account of one of these inventories somewhat in detail, and to point out a little later the more interesting features in the other inventories. The church of St. Thomas Apostle will supply a good specimen.

After a few details about money payments to the canons and to the archdeacon, the inventory commences. There is a churchyard belonging to this church (whereas six of the churches enumerated had no cemetery[a]). The church goods comprise a silver chalice, gilt within, of the weight of one mark, and a cross covered with silver. The books were numerous: an ancient missal, a good missal with a noted gradual, a breviary in three volumes (it is to be feared that

[a] Nos. 2, 3, 4, 7, 12, and 16.

this was imperfect, as breviaries are usually comprised in one, two, or four volumes), two antiphonaries, a psalter, an ancient gradual, and a good gradual with a troper, another troper by itself, and a manual. Of ecclesiastical vestments there were a complete *vestimentum*[a] with a linen chasuble, and a chasuble of silk with a stole and maniple of the same material; a bordered *palla;* a very good chasuble of silk, an alb well apparelled, a very good amice ornamented with gold embroidery, another alb good and well apparelled, with an amice embroidered with gold. On the high altar were five *pallæ*, two of them well apparelled; and before the altar two others, one of them painted (*picta*), the other of silk. At each of the other altars, three in all, were two *pallæ* upon the altar and one before it. Two banners of painted cloth, four surplices, and one Catalonian cloth complete the list. All these articles were enumerated by Stephen the priest, whose helpers were Albinus the assistant priest (if that is the proper rendering of *sacerdote assistenti*, as it probably is, all the helpers being enumerated under the word *assistentibus*), John the Soldier (*Johanne Milite*), and William de Valentin.

This is a fairly representative inventory.

A few peculiarities in other inventories may now be noted. At St. Peter le Bradestrate there is no chalice, *non est ibi calix*, a sufficiently remarkable circumstance: probably Nicholaus the chaplain had a chalice of his own, or the church may have had a borrowed chalice, which could not therefore be enumerated amongst its goods. At St. Michael, Queenhithe, is the following entry: *palla vna serica ante altare que dicitur bufe:* the suggestion is offered that *bufe* may stand for the English word *buff*, and that the altar-cloth was of this somewhat peculiar colour.

Of service books in the various churches the following is a list: it must, however, be remarked that no one church contained them all. The missal[b] (not mentioned in six churches); the *evangelistarium*, *epistolarium*, *collectarium*, *lectionarium*, *temporale*, and the *de communi sanctorum* in a separate volume. The breviary, or parts thereof. Of Choir Books, the antiphonar, gradual, psalter, hymnar, and tropar. The manual, and, in one church only, a *textus quatuor evangelistarum*.

Of the ancient Use of St. Paul's there are a few books, notably a *Leccionare optimum secundum consuetudinarium Sancti Pauli*, and an *Antiphonarium bonum et novum secundum consuetudinarium Sancti Pauli*.[c] Perhaps the *quædam particula*

[a] *Vestimentum*: a complete set of eucharistic vestments.

[b] A *Missale vetus in duobus voluminibus*, an unusual arrangement, is found in No. 14.

[c] See churches Nos. 1, 11, 12.

Vetustissimi Breviarii may be of this use also, and *pars Breviarii veteris in duobus voluminibus.*[a]

The chalices are usually of silver, gilt within, and vary greatly in their weight, ranging from "pondus xj. sol. j. d." to "xxiij. sol. et iij. d.," whilst others are said to be of the weight *dimidii marcæ* or *unius marcæ*. At St. Michael le Quern and at St. John Walbrook, the chalices were of pewter.

Of relics little is said: *Feretrum cum reliquiis, crux cum reliquiis, crux argentea deaurata in qua est de ligno Domini et aliæ reliquiæ preciosæ:* these are the only entries of this kind.

The vestments are of silk, or fustian, or in one case *de tireto*, a material of mixed wool and cotton-thread. It is remarkable that in no case is the colour of a vestment noted. A rochet is mentioned only once (in No. 18); and maniples only once (No. 11), but it is not unlikely that these vestments may be included under the general term *vestimentum.*

The Lenten veil, *pannus qui pendet ante altare a quadragesima* is found in one church only.[b]

Church chests, *archæ*, for the safe custody of the books and vestments, are occasionally named; and in one church there is an aumbry, *almarium bonum ad recondendum vestimentum.*[c] A *feretrum* or bier, in one instance only (No. 1); a *phylacterium* or relic case in one (No. 19); a *celum* or canopy in two cases (Nos. 1 and 8); a cross in eleven churches; banners in thirteen instances; censers, *turribula*, in one church only (No. 19); candlesticks, *candelabra*, in three (Nos. 3, 4, 19); a curtain, *cortina*, in two cases (Nos. 5 and 16); a *tabula depicta* in four (Nos. 9, 11, 13, 18).

It is difficult to understand the reason why these city churches should have been so scantily provided with vestments, ornaments, and furniture. In the contemporary inventories of the country churches of the Dean and Chapter there is hardly to be found a single church whose possessions were so few and poor. Just at this time, however, the Londoners had suffered very heavily from the exactions both of the pope and of the king. In 1246 a Parliament held in London had complained bitterly to the pope of the exactions of the legate, but after a short resistance to the demands had been obliged to give way. In 1248 Henry III. had sold his plate and jewels, and had heavily burdened the citizens to provide a force for the defence of Gascony.

The bishop of Oxford, in his *Constitutional History of England*,[d] observes

[a] See churches Nos. 10, 14.

[b] No. 18.

[c] Nos. 11, 14, and 15.

[d] ii. 68, 69.

that "the Council of Lyons, in which Innocent IV. deposed Frederick II., and in which Roger Bigod and others, representing the *communitas* of the realm of England, made a bold but vain demand for the relaxation of papal tyranny, and even attempted to repudiate the submission of John, concentrated the gaze of the world in 1245. Henry seems to have rested on the little victory he had won, eking out his revenue by vexatious tallages imposed on the Londoners. The wrongs of the church form for a time the chief matter of debate in the national gatherings."

There were also other causes which must have produced considerable disaffection. "Archbishop Boniface lived generally in Savoy, regarding his English see only as a source of revenue. On his occasional visits he offended the English by his arrogance and violence, and if, now and then, he saw that his real interest was to resist Roman extortion, he, like the king, was easily recalled by a share of the spoil."

In 1248 "the king kept his Christmas at London, taking large sums as New Year's gifts;" in fact, he never ceased to molest the Londoners by interference with their privileges. Under these circumstances, it may be supposed that the citizens would be out of heart, and that they would have but little spare money to expend upon their churches. The clergy of the cathedral, in common with the clergy at large, must have suffered severely from the burdens continually imposed upon them by the king and by the pope, and may consequently have been unable to supply to these churches in their gift such ornaments as were really needed for the beauty, or even for the decency, of the divine service. But even when due allowance is made for all these depressing circumstances, the extreme meagreness of the lists is very perplexing.

Dr. Sharpe, in his recently published work, *London and the Kingdom*[a] points out that just at this time "the country was overrun by a brood of Italian usurers, who battened on the inhabitants, reducing many to beggary. When attempts were made to rid the city of these pests, they sheltered themselves under the protection of the pope."[b] As an example of the arbitrary exactions of the king, he remarks that "if the citizens harboured a foreigner without warrant, not only was the city taken into the king's hand, but the citizens were fined a thousand pounds, a sum equal to at least twenty thousand of the present day."[c] In 1249 he had exacted from them a similar sum. These were not days in which parishioners would expend much money upon their churches.

[a] i. 85-88.

[b] Matthew Paris, ii. 382, 384; iii. 90.

[c] *Chronicle of Mayors and Sheriffs*, p. 11.

A few names of city vicars and clergy may be recovered from these lists, variously styled *capellanus*, *sacerdos*, *clericus*, and in one case *perpetuus vicarius*. Styled *sacerdos* are Radulphus 1 and 2, Albinus 5, Stephen 6; *capellanus*, Robert 3, Henry 8, Nicholas 10, Ailnodus 11, Walter 14, Jordanus 15, William 16, Richard 17; *perpetuus vicarius*, Richard 18; *clericus*, Vitalis 7. These numbers refer to the list of churches already given.

The three remaining inventories, lettered A, B, C, are of still earlier date: the first cannot be later than 1138. The items of *zona*, *corporale*, and *mantilia* are peculiar to this inventory. B and C cannot be assigned with certainty to any particular year, but they lie between 1160 and 1181. B preserves the name of Albericus, *presbyter*. C that of Edwardus, *sacerdos*. Several interesting entries occur in the last document, notably the *urceolum stagneum ad aquam*, and the *lectorium super altare*, or altar-desk.

The annexed table shows the distribution of plate, books, and vestments amongst the several churches.

TABLE SHOWING DISTRIBUTION OF BOOKS, ETC. AMONGST THE TWENTY CHURCHES.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Books:																				
Missal			1	1	1	2	1	1	1				1	1	1	1		1	1	1
Evangelistarium	1																			
Epistolarium	1							1												
Collectarium	1							1												
Lectionarium	1														1	1				
Temporale																	1			1
De Communi Sanctorum																				1
Breviary			1	1	1	1	1	1	1	p^t	p^t			p^t			1			2
Antiphonarium	1	1	1	1	1	2	1	2	1	1	1	1			1		1		2	1
Gradale	2		1	2	1	3	1	1				1	1		1	2		2		2
Psalterium			1		1	1	1	1						1	1	1		1	1	1
Hymnarium			1		1		1	1							1					
Troparium	2	1	1	1	1	2		1	1						1	1		1		1
Manuale				1		1				1				2	1					1
Textus iiij Evangelistarum											1									
Vestments:																				
Vestimentum	2	2	2	2	2	2	3	2	2	1	1	2	1	2	2	2	2	3	3	2
Alba				1									1							
Amicta	1		1	1																
Manipulum											2									
Palla	6	4	13	6	5	6	4	6	5	4	5	10	5	6	7	7	5	5	5	7
Pannus	5		1			1								1			1	3		4
Pannus in Quadragesima																		1		
Rochettum																		1		
Superpellicium			1	1		4								1	1			1	2	2
Ornaments:																				
Chalice		1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1
Almarium															1					
Archa											1			1		2				
Candelabra			2	2														2		
Celum	1							1												
Cortina					1											2				
Crux	1	1	1			1			1		1		1	1		1	1		2	
Feretrum	1																			
Philacterium																			1	
Tabula depicta									1		1		1					1		
Turribula																			2	
Vexillum	1	1	2	3		2			4		1	1			1		1	1	3	3

APPENDIX.

Inventories of City Churches from a Manuscript in St. Paul's Cathedral Library.
(MS. W. D. 4. Liber L. folios 83—85.)

1. Ecclesia sancti Benedicti super Werham[a] Episcopi Canonicorum est Sancti Pauli et reddit eis ij marcas per manum Ricardi Camerarii et solvit sinodalia xij. d., Archidiacono xij. d.

Hec ecclesia habet cimiterium. Hec sunt ornamenta ecclesie: Calix argenteus intus deauratus cum patena deaurata ad pondus xiij solidorum. Vetus collectarium. Vetus Gradale. Quidam libellus de communi sanctorum. Duo vestimenta integra et parata cum casulis, una serica, altera de fustanico.[b] Due palle[c] super altare et una serica ante altare. Unum vexillum cum cruce et feretrum cum reliquiis. Una amicta cum aurifrasio optimo. Pallee sex nove supra altare, duo panni picti ante altare. Hec dedit Radulphus de proprio dono. Evangelistarium, Epistolarium, optima. Leccionare optimum secundum consuetudinarium Sancti Pauli, Antiphonarium bonum. Gradale optimum precii unius Marce. Duo troparia optima. Celum[d] celatum precii unius Marce. Duo panni boni incisi et unus pannus ad cooperiendum altare. Hec inquisita sunt coram Radulpho sacerdote et Hedredo tinctore[e] et Alboldo telario.

2. Ecclesia sancti Petri parvi[f] super Tamisiam est Canonicorum et reddit eis xij d. per manum Radulphi sacerdotis et solvit sinodalia iiij. d, Archidiacono xij. d.

Non habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus unius Marce. Antiphonarium bonum. Troparium. Duo vestimenta integra, unum paratum,

[a] That is St. Benedict, Paul's Wharf. Sometimes called S. Benedictus in hetha, in etha, super hetham, super hutham, super Wodewarve: or, in English, at the Hythe, or St. Bennet Woodwharf. "Ecclesia S. Benedicti super Werpam Episcopi est Canonicorum," etc. Newcourt, *Repertorium*, I. 301, quoting Reg. Dec. et Cap. lib. B. fol. 36, a MS. no longer found amongst the records.

[b] Fustian: a material nearly akin to velvet. Rock, *Textile Fabrics*, xlv.

[c] Palla: "lineus pannus consecratus, qui super altare ponitur, super quem extenditur corporale." Ducange.

[d] Celum: Ducange says, "Umbella, quae in processionibus et funeribus Regum portatur." Here, either a canopy over the altar, or a canopy used in processions.

[e] Tinctor, Telaricus: a dyer, a weaver.

[f] S. Petrus parvus, etc.: St. Peter, Paul's Wharf, called Parva, says Stow, "because it was but a small church."

alterum non paratum; cum duabus casulis, una cum veteri serico, altera de fustanico. Due palle ante altare, due super altare. Una crux argentea deaurata in qua est de ligno Domini,[a] et alie reliquie preciose. Vetus vexillum. Hec inquisita sunt coram sacerdote et Herlewino et Willielmo cuverio.[b]

3. Ecclesia Sancti Michaelis de Macello[c] est Canonicorum et reddit eis ij Marcas per manum Rob rti capellani et solvit sinodalia iiij. d., Archidiacono xij. d.

Non habet cimiterium. Habet hec ecclesia in domino suo quondam [*sic*] terram ad ostium ecclesie versus aquilonem. Hec sunt ornamenta: Calix stagneus. Missale bonum. Unum breviarium cum antiphonario notato. Gradale cum tropario. Psalterium vetus. Ymnarium vetus. Duo vestimenta bona integra et parata cum casulis, una de serico bona, Altera de fustanico. Palle viij, tres illarum parate. Unum superpellicium. Palle V ante altare, una serica et alie iiij picte. Duo vexilla, cum cruce una: Quidam pannis [*sic*] sericus circa crucem. Una amicta sine vestimento. Duo candalabra stagnea. Hec inquisita sunt coram predicto capellano et Godefrido orbatore[d] et Ricardo Goldewino.

4. Ecclesia Sancti Augustini[e] est Canonicorum et reddit eis j Marcam per manum Radulphi Britonis[f] et reddidit antiquitus xx solidos et solvit sinodalia iiij. d.,

Archidiacono xij. d. Non habet cimiterium et habet in dominia terrulam quondam de terra Willielmi Cesterford, versus aquilonem iiij pedum in latitudine, versus orientem iiij pedum, de terra ejusdem Willielmi quantum ipsius terra protensa est. Ornamenta hec sunt: Calix argenteus intus deauratus ad pondus unius Marce. Missale bonum cum Gradali non notato. Gradale bonum cum tropario. Breviarium bonum sine antiphonario. Unum Manuale cum psalterio. Antiphonarium bonum. Unum vestimentum bonum cum casula serica et apparatu serico. Item aliud vestimentum cum casula serica. Superpellicium. Item alba quedam vetus et una amicta. Due palle super altare, una optima cum aurifrigio, et altera bene parata ad magnum altare, et duo ad aliud altare, et due palle serice ante altare magnum, due palle picte due palle picte [*sic*] ante altare, Tria vexilla celata, duo candelabra. Hec inquisita sunt coram Radulpho Britone, assistentibus ibi Waltero parmentario[g] et Waltero filio Alicie.

[a] De ligno Domini: the wood of the Cross.

[b] Cuvarius: a cooper.

[c] De Macello: "because near the Shambles or Fleshmarket." More usually called *ad Bladum*, or, in English, St. Michael le Quern.

[d] Orbator: a gold-beater.

[e] St. Augustine, Watling Street.

[f] The name of Osbert Brito occurs in the list of tenants at Barling. Hale, *Domesday*, 66. Ralph Brito, or Le Breton, was admitted to the stall of Cadington Major in 1228.

[g] Parmentarius: a tailor.

5. Ecclesia Sancti Antonini[a] est Canonicorum et reddit eis ij Marcas per manum Albini sacerdotis solvit sinodalia xij. d.,

Archidiacono ij solidos: sed tempore Willielmi Archidiaconi[b] non reddidit nisi xij. d. Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus xx solidorum intus deauratus. Missale vetus. Psalterium cum ymnario. Duo paria vestimentorum, unum bonum bene paratum cum casula serica bona, et altera casula de tireto[c] et capa serica bona. Due palle ante altare serice. Tres palle super altare, due earum parate. Quidam cortina pendens super altare. Gradale, troparium, breviarium, antiphonarium. Omnes libri sunt de proprio questu Albini supradicti. Hec inquisita sunt coram Albino sacerdote assistentibus ibi Ricardo Wendebrede, Johanne drapario.

6. Ecclesia Sancti Thome[d] est Canonicorum et reddit eis unam Marcam argenti: scilicet unam medietatem per manum Stephani sacerdotis, et alteram per manum Henrici de Tantuna. Solvit sinodalia xij. d.,

Archidiacono xij. d.: et Habet in dominio suo terram quandam juxta terram Johannis Pipercorn, que solebat reddere annuam Marcam quam tenet Radulphus vinitor[e] pro ij solidis reddendis Stephano. Habet cimiterium. Hec sunt ornamenta que invenit Stephanus: Calix argenteus intus deauratus ad pondus unius Marce. Missale vetus, unum breviarium in tribus voluminibus, Antiphonarium, Psalterium, Gradale vetus, Troparium. Unum vestimentum integrum cum casula linea. Alia casula serica cum stola et manipulo sericis. Una palla parata. Hec ornamenta que sunt prefatus Stephanus:[f] Missale bonum cum gradali notato. Antiphonarium bonum. Gradale cum troparium bonum. Manuale. Casula serica optima et alba bene parata, et amita optima cum aurifrigio, et altera alba bona et bene parata, cum amita de aurifrigio. Palle V super altare magnum, due earum bene parate; et due palle ante altare, una picta, altera serica vetus; et ad singula trium altarium aliorum due palle super altare et ante altare una. Duo vexilla de panno picto. Quidam pannus catalaunensis.[g] Quatuor superpellicia. Una crux argento cooperta. Hec inquisita sunt coram Stephano sacerdote, Assistentibus ibi Albino sacerdote assistenti Johanne Milite, Willielmo de Valentin.

[a] St. Anthony: or, St. Antholins.

[b] William was Archdeacon of London in or about 1136, he held the archdeaconry in 1150. Le Neve.

[c] De tireto: Ducange gives "Tiretanus: pannus lana filoque textus. Gall: Tiretaine."

[d] St. Thomas: this church, commonly called St. Thomas Apostle, stood in Knight Rider Street, on the north side, toward the east end thereof. Newcourt.

[e] Vinitor: Vintner.

[f] Stephanus: *sic.* probably *Stephanus invenit* was intended.

[g] Catalaunensis: for some valuable observations upon Spanish textiles, see Dr. Rock's *Textile Fabrics.* Introduction, lxvii. *Catalaunia* is the Latin name of Catalonia.

7. Ecclesia Sancti Johannis super Walebroc[a] est Canonicorum et reddit eis ij solidos per manum Vitalis clerici, solvit sinodalia iiij. d.,

Archidiacono xij. d.: et habet in dominio suo quandam terram que reddit ij solidos et est de feudo Willielmi de la Mare; et aliam terrulam que est inter ecclesiam et Walebroc et reddit iij solidos. Non habet cimiterium. Hec sunt ornamenta: Calix stagneus. Missale vetus, Breviarium vetus, Gradale vetus, Antiphonarium vetus, ymnarium, Psalterium. Duo paria nestimentorum parata, Tercium non paratum. Una casula serica, Altera de fustanico. Tres palle super altare parate, et Una ante altare serica. Hec inquisicio facta est coram Vitali clerico, Assistentibus[b] ibi Stephano capellano.

8. Ecclesia Sancti Egidii[c] est Canonicorum et reddit eis xv Marcas per manum Johannis filii Gerardi et solvit sinodalia xij. d.

Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus xxiij solidorum et iij. d. Unum Missale vetus bonum, Breviarium bonum cum antiphonario perusum, et aliud vetus antiphonarium et ymnarium bonum, epistolarium vetus, Collectarium, Troparium, Gradale, Psalterium quod alumpniat[d] Philippus. Duo vestimenta integra et parata, Unum cum serica casula, Aliud cum casula cum fustanico; et preterea una alba parata, et una quam habet Philippus quam dedit Ysabel uxor Johannis Pipercorn ecclesie sancti Egidii. Palle vj super altare, quoddam celum, quedam cortina, quidam pannus pictus, palla linea ante altare. Hec inquisita sunt coram Johanne filio Gerardi, Assistentibus ibi Henrico capellano, Benedicto filio Toki,[e] Benedicto filio Alani, Lefwino megucer,[f] Reimundo.

9. Ecclesia sancte Marie de Aldresmanesberi[g] est Canonicorum et reddit eis ij solidos per manum Johannis, quos reddit modo Philippus capellanus Wintoniensis Episcopi et solvit sinodalia xij. d.

et habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xvj solidorum. Missale vetus, Breviarium optimum cum antiphonario notato sanctorum tantum,

[a] St. John, Walbrook, stood in Walbrook Ward, "the east end whereof was in Dowgate Street and the west end upon the very banks of Walbrook." Newcourt, I. 370.

[b] Assistentibus, *sic.* in MS.

[c] St. Giles, Cripplegate.

[d] Alumpniat: probably for *alumenat*, or *alumenavit*. *Alumenare* is a late form of *illuminare*. The Psalter which Philip is illuminating.

[e] Toki: on a Danish monumental stone found in August, 1852, at the S.E. of St. Paul's Churchyard is the inscription, KONA AND TUKI CAUSED LAY THIS STONE.

[f] Megucer: *Megucarius*, a leather dresser.

[g] St. Mary, Aldermanbury.

troparium. Duo vestimenta parata cum una casula serica. Due palle ante altare veteres et serice, et due palle super altare parate. Tabula depicta cum cruce ossea. iiij vexilla. Una palla ante altare sancte Katerine. Hec inquisita sunt coram duobus parrochianis, Rogero tinctore et Rogero filio Walteri, et coram clericis ipsius ecclesie.

10. Ecclesia sancti Petri de Bradestrate[a] est Canonicorum et reddit eis ij solidos per manum Nicholai capellani usque ad iiij annos, et deinceps v solidos: solvit sinodalia iiij. d,

Archidiacono xij. d. Hec sunt ornamenta: Non est ibi calix: sed est ibi manuale, Vetus antiphonarium, Quedam particula vetustissimi breviarij. Unum vestimentum integrum cum casula linea. Due palle super altare veteres, due ante altare, j serica, altera picta. Hec inquisita sunt coram Nicholao capellano, Assistentibus ibi Petro, Radulpho.

11. Ecclesia Sancte Helene[b] est Canonicorum et reddit eis xx solidos per manum magistri Cypriani: solvit sinodalia xij. d., Archidiacono xij. d.

Habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xvj solidorum. Unum antiphonarium bonum et novum secundum consuetudinarium sancti Pauli. Textum iiij^{or} evangelistarum. Crux cum reliquiis, tabella depicta, pars breviarij. Vestimentum integrum cum casula serica. Palla serica ante altare sex solidorum, et duo manipuli. Vexillum. Item due palle ante altare serice, Alia linea, due super altare veteres, Una parura. Archa bona et ferrata ad libros recondendos et vestimenta. Hac inquisicio facta est coram Ailnodo capellano, Simone clerico, Galfrido, Petro.

12. Ecclesia sancti Michaelis de Cornhithe[c] est Canonicorum et reddit eis iij Marcas et dimidium per manum Walteri filii Walteri: et solvit sinodalia iiij. d, Archidiacono xij. d.,

et habet in dominio suo soppam[d] unam que reddit ij solidos. Non habet cimiterium. Hec sunt ornamenta ecclesie que invenit Walterus: Unum vestimentum integrum cum casula serica, palla ante altare, palla incisa[e] ante altare et alia picta. Hec addidit Walterus de proprio dono. Una alba bona et parata cum amita et unum vestimentum optimum integrum quod adquisivit a parrochianis offertorium.[f] Palla una serica ante altare que dicitur Bufe. vj super altare palle, due illorum parate de serico. Antiphonarium optimum secundum consuetudinarium sancti

[a] St. Peter, Broad Street, otherwise called St. Peter le Poor.

[b] St. Helen, Bishopsgate.

[c] St. Michael, Queenhithe, *ad Ripam Reginae*: otherwise called St. Michael de Cornhith, in Queen-hith-Ward.

[d] Soppam: *schopam*, a shop.

[e] It seems likely that *opus incisum* may be the same as the *opus consutum* described by Dr. Rock, *Textile Fabrics*, cii.

[f] Offertorium: an offering.

Pauli. Gradale novum quem dedit Walterus, parrochianis presentibus. Vexillum. Hec inquisita sunt coram predicto Waltero, Assistentibus ibi Willielmo Blundo, Rogero mercerio, Johanne palmario,[a] Hme[b]

13. Ecclesia sancti Benedicti de Gaischereche[c] est Canonicorum et reddit eis dimidiam Marcam per manum Helye sacerdotis, et solvit sinodalia xij. d.

Archidiacono . Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus unius Marce intus deauratus. Missale bonum cum Gradali non notato. Vestimentum bonum paratum cum casula serica, et alia casula vetus cum stola et manipulo sericis. Palle tres, due illarum parate ante altare, due incise ante altare, et una picta tabula picta bona, et crux bona. Hec inquisita sunt coram capellano, Assistentibus ibi Fulcheri, Laurencio, et aliis parrochianis.

14. Ecclesia sancti Botulphi[d] est Canonicorumet redd it eis xviij. d. per manum Cristine persone: solvit sinodalia iiij. d., Archidiacono

xij. d., Regi de fundo ecclesie j. d.

Ornamenta: Calix argenteus intus deauratus ad pondus dimidii Marce. Missale vetus in duobus voluminibus, pars breviarii veteris in duobus voluminibus, Antiphonarium, Gradale, Psalterium, ij Manualia. ij paria vestimentorum, una vetus et altera serica vetus. ij palle super altare una parata. ij ante altare, una picta, altera nullius modi. Pannus pictus ultra altare. ij palle super altare Sancte Marie, una picta ante altare. Archa bona ad recondenda vestimenta. Superpellicium vetus. Crux optima cum baculo. Hec inquisita sunt coram capellano, assistentibus ibi Waltero capellano, Galfrido, Ranulfo.

15. Ecclesia Sancti Martini[e] est Canonicorum et reddit eis xviij. d. per manum Cristine persone: solvit sinodalia xij. d.,

Archidiacono xij. d. Habet cimiterium. Ornamenta: Calix argenteus intus deauratus ad pondus xv solidorum. Missale vetus, Antiphonarium mediocre, Leccionare, Gradale cum

[a] Palmarius, a palmer or pilgrim.

[b] Probably the same name, Hemeri, as that which occurs at the end of Inventory No. 16.

[c] St. Benedict Grasschurch, or Gracechurch Street: called Grasschurch by reason of the herb market held there, according to Stow. Graschurch was the great corn market of the city. The market was not, however, restricted to corn and malt: blacksmiths were permitted to send their work thither for sale. Cunningham and Wheatley, *London Past and Present*.

[d] St. Botolph, Billingsgate.

[e] St. Martin Orgar, in St. Martin's Lane, near Candlewick Street.

tropario, Manuale bonum, ymnarium vetus, psalterium. Superpellicium, vexillum; duo paria vestimentorum parata, Unum illorum bonum cum duabus casulis, una serica. Tres palle super altare parate, iiij[or] ante Almarium[a] bonum ad recondendum vestimentum. Hec inquisita sunt coram Jordano capellano, assistentibus ibi Cristina persona, et Edwardo normanno.

16. Ecclesia sancte Marie Magdalene in Melestrate[b] est Canonicorum et reddit eis ij solidos per manum Bartholomei aurifabri: solvit sinodalia iiij. d., Archidiacono xij. d.

Non habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xiiij solidorum. Missale bonum cum Gradali notato, Gradale bonum cum tropario, leccionare plenarium, Psalterium. ij paria vestimentorum parata, unum optimum et alterum bonum; et cum duabus casulis sericis, Una de Montabech,[c] Altera de Melan.[d] Due palle ante altare serice; iiij palle super altare, due earum parate; due palle super altare Sancti Nicholai, alia ante. ij cortine. Una crux super altare bona. Due arche bone ad recondenda vestimenta. Hec inquisita sunt coram Willielmo capellano ipsius ecclesie, Assistentibus ibi Osberto fergant[e] Hemeri.

17. Ecclesia sancti Johannis Zacharie[f] est Canonicorum et reddit eis xx solidos per manum magistri Petri: solvit sinodalia

xij. d., Archidiacono xij. d., et habet cimiterium. Ornamenta: Calix argenteus intus deauratus ad pondus xiiij solidorum. Breviarium cum antiphonario notato temporale tantum. ij paria vestimentorum parata cum duabus casulis, Una de alba serica, Alia vetus de veteri serica. Palle V parata [*sic*], una earum super altare, due parate picte. Quidam pannus pictus ultra altare. Vexillum crucis sericum. Hec inquisita sunt coram Ricardo capellano, Assistentibus[g] ibi Godwino mercerio

[a] Almarium: an aumbry, or cupboard.

[b] St. Mary Magdalene, Milk Street, stood on the east side and towards the south end of that street.

[c] Montabech: it is not easy to identify this place.

[d] Melan: perhaps silk from Milan is intended. That city was famous for its gold thread. Dr. Rock, *Textile Fabrics*, 197.

[e] Fergant: *sic*, but probably sergant, for sergeant.

[f] St. John Zachary: the church stood before the fire in Engaine Lane, or Maiden Lane, at the north-west corner thereof, in Aldersgate Ward. Newcourt.

[g] Assistentibus: *sic.* in MS.

18. Ecclesia sancte Marie Magdalene[a] est Canonicorum et reddit eis xvj solidos per iiij^{or} annos, et post iiij^{or} annuos reddet eis xx solidos, per manum Ricardi perpetui vicarij: et solvit

sinodalia iiij. d., Archidiacono xij. d.[b] Ornamenta: Calix argenteus ad pondus unius Marce. Missale bonum cum Gradali non notato et cum psalterio, Gradale ij sol, Troparium bonum. Vestimentum integrum bene paratum cum casula de fustinaco optima; Aliud vestimentum integrum cum casula de colmarco;[c] tercium bene paratum sine casula. ij palle ante altare, Una depicta. iij panni depicti circa altare. Pannus qui pendet ante altare in quadragesima. iij palle super altare, una depicta, una earum parata delicta serica. Vexillum de serica, et superpellicium et Rochettum. Tabula depicta ultra altare.

19. Ecclesia Sancti Stephani[d] est Canonicorum et reddit eis ij solidos per manum Prioris de Buteleia,[e] et solvit sinodalia xij. d.

Ornamenta: Calix argenteus intus deauratus ad pondus xj solidorum. Philacterium[f] de esmal.[g] ij candelabra de auricalco.[h] Missale vetus, Psalterium vetus, ij Antiphonaria, ij libelli. Tria paria vestimentorum, Unum cum casula de aurifrigio ornata, Secundum cum casula serica, Tercium de fustanico. Quinque palle benedicte. ij superpellicia. ij terribula, tria vexilla, due cruces.

[a] St. Mary Magdalene, Old Fish Street, stood "over against the north end of Lambart-hill-lane, in Knight Rider Street." Newcourt. The church, rebuilt after the Great Fire, was burnt down in 1886. It was not again rebuilt.

[b] In the margin is this note: "contra Archidiaconum londoniensum." [*Sic.*]

[c] Colmarco: perhaps calamanco, a woollen material. It is mentioned in Lyly's play of Midas, in 1592. Ducange gives the forms calamacus, calamancus, calamantus, camelancum; but with the meaning, a hat of camel's hair. *The Drapers' Dictionary.*

[d] St. Stephen, Coleman Street. Stow says, that the church was sometime a synagogue of the Jews.

[e] Prior de Buteleia: the Prior of Butley, in Suffolk. The Priory of Butley, a house of Black Canons, was founded by Ranulph de Glanvil, the celebrated lawyer, afterwards Justiciary of England, in 1171. On his removal from office he joined the Crusade, and was with King Richard the First at the siege of Acre. In the *Compotus Ministrorum Domini Regis temp. Henry VIII.* in the Augmentation Office, is this item: "London. Firma rector' S' Steph' Colman Street 10 . 0 . 0." Dugdale, *Monasticon*, VI. 380-382.

[f] Philacterium: a reliquary. "Theca minor sacrarum reliquiarum, quae ad collum filacteriis seu vittis appensa in processionibus portabatur." Ducange.

[g] Esmal: enamel.

[h] Auricalco: more properly *orichalcum*. The word is not derived from *aurum*, but is equivalent to ὀρείχαλκος, yellow copper ore, and the brass made from it.

20. Ecclesia Sancti Olavi in vico Judeorum[a] est Canonicorum et reddit eis ij solidos per manum Prioris de Buteleia: solvit sinodalia xij d., Archidiacono

xij. d. Ornamenta: Calix argenteus intus deauratus ad pondus unius Marce. Missale bonum, ij Gradalia cum tropario, Manuale, Psalterium, ij breviaria, unum temporale, aliud de passionibus Sanctorum, Antiphonarium. ij vestimenta cum ij casulis, tercium sine casula. vij palle benedicte, Una earum parata. ij panni depicti scelati ad magnum Altare, ij ad alia Altaria. ij superpellicia, ij vexilla de linea, pannum depictum et scelatum, Tercium de serico.

A.

De Ecclesia Sancti Michaelis de Ædreshuda.[b]

Hæc autem sunt quæ ipse Walterus[c] in æcclesia illa recepit: Breviarium, Troparium, Gradale, Antiphonarium, Manuale, Capitularium, Pars veteris Missalis, Missale, Alba parata, Amictus, Stola, Zona, Corporale, iiij Mantilia,[d] Totum vestimentum sacerdotale, Duæ cruces, Pannus Altaris, Duo Tintinnabula.

This document is witnessed by Willelmus Decanus, Willelmus Archidiaconus, Cyprianus Archidiaconus, and many others. Dean William died in 1138, his name occurs as dean in 1111; William, archdeacon of London, occurs from about 1136 to 1150; Cyprian, son of Quintilian, held the stall of Ealdland (in succession to his father) in 1132. The latest date to which this deed can be assigned is therefore 1138.

B.

Sancte Helene.

In æcclesia Sanctæ Helene reperta sunt hæc tempore Alberici presbitiri: Missale unum, Pars tercia Breviarii, Antiphonarium, Manuale, Hymnarium, Integrum Vestimentum cum casula de pallio, Manutergia Altaris duo, Pallium ante Altare, Crux deargentata.

This inventory is transcribed from *Liber L.* fol. 30*b*: it relates to St. Helen's Bishopsgate. The document is witnessed by Hugo, Decanus, and others. Hugh de Marinis, or de Marney, is thought to have been dean of St. Paul's from about 1160 until about 1181. See Le Neve's *Fasti*. The date of the document lies, therefore, within these limits.

[a] St. Olave, Old Jewry.

[b] Copy of a deed of the twelfth century. *Liber L.* fol. 29.

[c] Walterus: that is Walterus, nepos David, previously named in this manuscript.

[d] Mantile: "linteum est ad abstergendas manus." Ducange.

C.

De æcclesia Sancti Augustini.[a]

In æcclesia Beati Augustini dimittit Edwardus sacerdos Psalterium, Gradale bonum cum tropario, alterum troparium per se, Lectionarium valentem xxx solidos, unum vestimentum plenarium, casulam de catavolatilia,[b] albam cum paramento, amitam cum paramento, stolam de serico, manipulum de serico, cingulum de serico, alterum vestimentum cujus vestimenti casula est de serico, Alba cum paramento, Amita cum paramento carens stola et manipulo, Pannum de serico ante Altare, iij pannos lineos bonos super Altare, Superpelliceum cum rochato,[c] Calicem argenteum intus deauratum cum patena argentea appendentem j marcam duobus denariis minus, duas phialas stagneas, urceolum stagneam ad aquam, ij candelabra cuprea, altera ij lignea, duas pelves parvas. Lectorium[d] super Altare, Crucem portabilem, Archam ad hec recondenda, Cathedram, Turribulum.

[a] St. Augustine, Watling Street. This document is transcribed from *Liber L.* fol. 30, and is probably of the same date as the last Inventory.

[b] Catavolatilia: possibly a corruption of Catalaunensia. In the church of St. Thomas Apostle was a *pannus Catalaunensis*.

[c] Rochato: *sic.* in MS. Compare Inventory No 18.

[d] Lectorium: Ducange says, "Analogium, Ambo, pulpitum in quo legitur in ecclesia." Perhaps, in this inventory, an altar-desk.

XIV.—*The House of Aulus Vettius, recently discovered at Pompeii.*

By Talfourd Ely, *Esq.*, *M.A.*, *F.S.A.*

Read February 20, 1896.

In dealing with the *Domus Vettiorum*, the recent publications to which I have chiefly had recourse have been the following:

(1) *Notizie degli Scavi di Antichità comunicate alla Reale Accademia dei Lincei.*

(2) Herrlich, in the *Archäologischer Anzeiger, Jahrbuch des Kaiserlich deutschen archäologischen Instituts*, 1895.

(3) Sogliano, *Il supplizio di Dirce in un dipinto Pompeiano e il Toro Farnese*, Napoli, 1895.

(4) F. Marriott's *Facts about Pompei;* and his article entitled *The New House in Pompei*, in *The English Illustrated Magazine* for January, 1896.

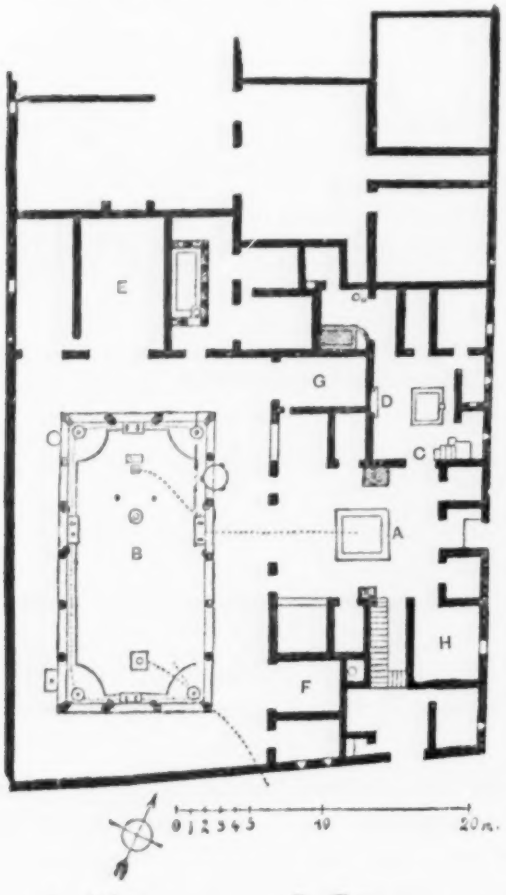
The excavation of this house was not begun when I last visited Pompeii, but I have taken pains to obtain from Italy a large number of excellent photographs, thirty-eight of which I exhibit, and with the help of these and of literary sources, supplemented by a practical knowledge of Pompeii gained from personal observation, I hope to be able to give a fairly intelligible account of the interesting mansion recently brought to light.[a]

This is situated in the north-west quarter of the town, *Regio* VI., to the east of the *Casa del labirinto*, from which it is separated only by a narrow street. It

[a] Since this paper was laid before the Society there has been published in the *Bulletino dell' Imperiale Istituto Archeologico Germanico* (1896), xi. 3-97, a valuable account of the house in question, by August Mau, the greatest authority on Pompeian wall decoration.

is, therefore, close to the "House of the Faun," and not far from that of Pansa, and other houses immortalised in Bulwer's popular novel.

Crossing the Tuscan *atrium* (fig. 1 A) from the east one finds no *tablinum*, nor any *fauces*, but passes at once into a splendid peristyle (fig. 1 B) in the south-western portion of the *insula*.



A. Atrium.
B. Peristyle.
C. Smaller Atrium.
D. Lararium.
E. Œcus.
F. Triclinium.
G. Larger Triclinium.
H. Smaller Œcus.

Fig. 1. Ground-plan of the newly discovered House of A. Vettius, at Pompeii.[a]

Its portico is supported by eighteen Corinthian columns, four being at each end. They have finely wrought capitals, and have not had their flutings partially filled up, as is usually the case.

The flower beds in the centre have been restored and planted with flowers and shrubs. A new roof has been put on the portico, and the authorities, having wisely determined to keep everything of interest *in situ*, have covered the paintings with glass, besides applying the usual dressing with wax.

The decoration is for the most part in Mau's fourth style, belonging to the last two or three decades of the city's existence, though Herr Herrlich recognises in parts, *e.g.* on the walls surrounding the peristyle, the characteristics of the third or more sober style, which was in vogue during the first half century of the Christian era.

Traces of this "kandelaberstil," as Mau calls it, may be seen in the *atrium*, where long slender candelabra-forms divide the spaces of the wall.

[a] Enlarged from that in *Bulletino dell' Imperiale Istituto Archeologico Germanico Sezione Romana* (1896), vol. xi. fasc. 1.

For the most part, however, the fourth style prevails, with its bright colours, among which, and especially in the house we are considering, the brilliant cinnabar plays an important part. A piece of the red stucco-ground from this house of Vettius, lately shown to me by Mr. Marriott, was far brighter than anything of the kind that I had ever before seen.

Hitherto but little marble has been found at Pompeii. As a rule, it was counterfeited by painted stucco, there being no marble quarries near at hand. In other cases, where real marble had been employed, it was removed with other valuables immediately after the desertion of the city. In this house, however, we find an exception to the rule. There are several tables of marble in the peristyle, besides numerous fountain basins and statuettes, amongst which a hunter with hare and a satyr with wine-skin are praised for their beauty. There are also a pair of bronze statuettes representing boys, each holding a goose, from whose bill water flowed.

Still more interesting are two pairs of marble heads back to back, Dionysus with Ariadne, Silenus with a Bacchante. The marble pillars on which they stand are exquisitely carved with ivy,[a] and remind me forcibly of Professor Flinders Petrie's pieces of columns from the palace of Akhenaten with their flowing designs of vines, which have been compared with Renaissance decorations. Even Silenus is here represented in his nobler mood, and it requires the comparison with his Olympian master to make us feel the true lowness of his type.

Discoveries of objects in metal are recorded in the *Notizie degli Scavi* from day to day for a twelvemonth; one only need be mentioned here. It is the discovery on December 11th, 1894, of two seals and a ring bearing inscriptions which point to the owner of the house.

Those on the two seals contain ITTƎV · A, apparently the genitive singular of Aulus Vettius,[b] to which is added on the second ƧƎAVIVNOƆ·

[a] The carving on one of these pillars, as Mr. A. H. Smith has pointed out to me, appears to have been left unfinished. Mau considers that the double bust of Silenus and the Bacchante is the earlier, *Bulletino* (1896), p. 42.

[b] One Vettius Bolanus was sent by Vitellius to take the command in Britain (Tacitus, *Historiæ*, ii. 65), to which task he seems to have been hardly equal, see Tacitus, *Historiæ*, ii. 97; *Agricola*, 8 and 16. Vettius Valens appears in the list of Messalina's lovers, Tacitus, *Annales*, xi. 30, 31, and 35. Though coming to the front under the early empire, the *Vettia gens* is hardly known before the last century of the Republic. Vettius Scato was an Italian leader in the Marsic war. There is a denarius of T. Vettius Judex with the agnomen Sabinus. For tombstones of Vettii see *Corpus Inscriptionum Latinarum*, vi. 28662 to 28691; of Vettiae 28692 to 28713.

The ring contains this inscription in an abbreviated form ƆVA, *i.e.* A(uli) V(etti) Co(nvivae).[a]

It seems to me that *Convica* may be the third name of Aulus Vettius, as we have *Scipio* and *Mus*, common nouns used as surnames in Latin,[b] and the English "guest." The final s may stand for *sigillum*, in reference to the impression of the seal. A learned friend, indeed, points out to me that A. Vetti may possibly be a *vocative*, and that the last two letters in the second inscription may be the verb *es*. I prefer, however, to take the words as genitives.[c]

The second line of seal No. 1 being obviously wrongly reproduced in the *Notizie*, I wrote to Mr. Neville Rolfe, our consul at Naples, through whose kindness, and that of Professor de Petra, Director of the Museo Nazionale, I am able to supply the proper reading, viz.:

ITTƎ · A
ꟻVꟻƧƎЯ

i.e. A. Vetti Restituti. I had previously conjectured that this must be the name, but had not succeeded in finding anything on the monuments of the Vettii nearer to *Restitutus* than the sepulchral inscription at Rome, Vettiæ Restutæ (*sic*) in *Corpus Inscriptionum Latinarum*, vi. 28710.

We may now pass to the walls of the rooms themselves.

These, as in most Pompeian schemes of decoration of the same date, are divided into three horizontal bands, the lowest being a plinth of darker shade, either adorned with lightly-traced arabesque or painted in imitation of marble. (*See* fig. 2.)

The highest band contains single figures standing in niches supposed to be open to the sky, often with perspective effects. Sometimes it is edged with a frieze of figures.

The middle and most important band is much wider, and is divided vertically into three or more panels; those at the sides presenting to us vistas similar to those above.

The centre, however, is occupied by a large painting three or four feet square; an imitation of an easel-picture.

Before considering, however, the ordinary ornamental paintings let us glance at a well-preserved and valuable example of the religious picture, the characteristic mark of the Roman dwelling.

[a] *Notizie degli Scavi*, Gennaio, 1895, p. 32. [b] So we have Vettius Aquilinus *Juvencus*.

[c] The actual name, A. VETTI · CONVIVAI occurs in one of the tablets of Caecilius Jucundus. *See* De Petra in the *Atti* of the *Accademia dei Lincei*, 1876, p. 208, No. 79. No fewer than six other Vettii appear in these tablets.

In early times no doubt such religious objects were placed in the *atrium*; but as civilisation advanced the cooking hearth was relegated to the kitchen or the *pistrinum*, and with it went the tutelary deities. At a later period they were to be found close to the house door.

In the present case a room of irregular shape (fig. 1 C), entered from the *atrium*, contains the *ædicula* or shrine of the household gods (fig. 1 D, and fig. 3). Its two columns, supporting a richly decorated pediment, project about eight inches from the wall. Between these columns, at the back of a niche, we see



Fig. 2. Room in the House of A. Vettius, at Pompeii, shewing disposition of the wall paintings and mural decorations.

at the bottom of the picture an enormous serpent, with beard and crest, advancing through bushes to devour the offerings on a burning altar.

Above this the main field is occupied by three figures, two of which, similar in dress and pose, advance on tiptoe, as if dancing, towards the centre, from right and left respectively, though turning their heads in a direction different from that

in which they are going. Each carries a *rhyton* raised aloft in one hand towards the centre, the other arm being bent and carrying the *situla*.

They wear high boots and short tunics, girt up with a chlamys in youthful Bacchic style. Their heads are wreathed.

Between them, facing the front, stands a male figure, with toga covering the back of the head, the left hand holding the *acerra* or box of incense, the right extended with the *patera*.

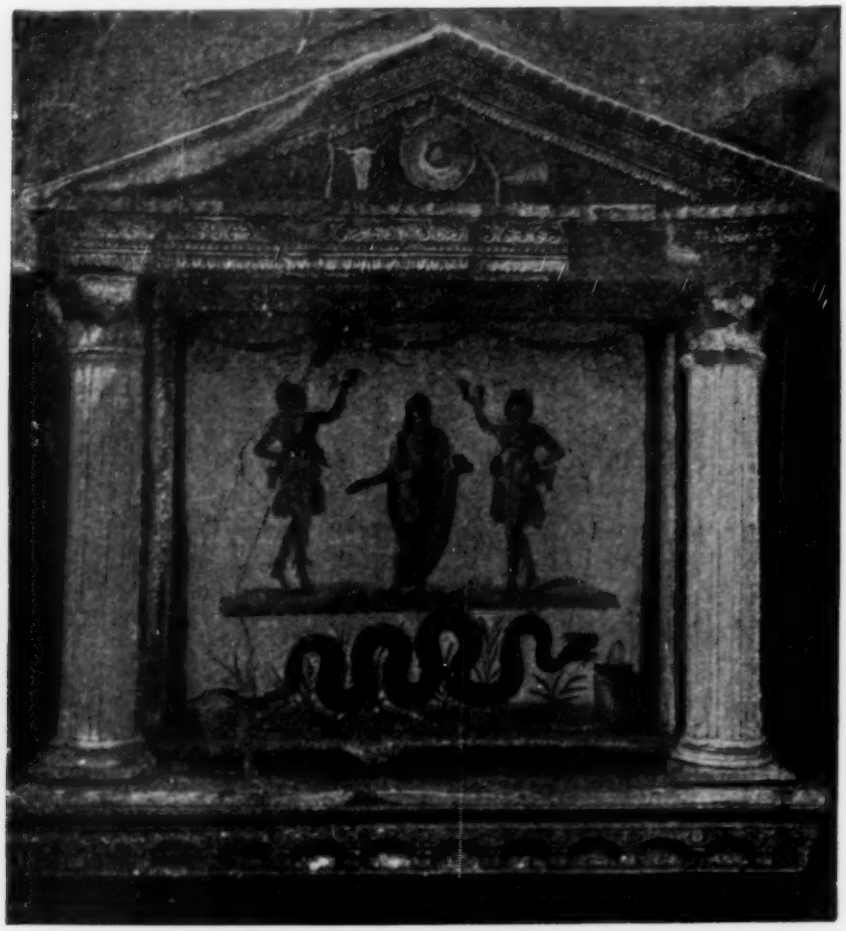


Fig. 3. Lararium in the House of A. Vettius at Pompeii.
(From a photograph by Brogi, of Naples.)

There are no traces of a wreath in this case. Above are three garlands tied with ribbons.

The architrave and cornice of the pediment are richly decorated, the mouldings being coloured red, white, and blue;[a] and within the tympanum appear the sacrificial knife, and a *bucranium*, as if heraldic supporters to the central *patella*, or rather *lanx*, for the dish is a large one, so as to fill the middle of the pediment.

The central figure has been supposed to be female, and if so would be Vesta. That such, however, is not the case may be seen by the corresponding picture in the *pistrinum* of the *casa del labirinto* just across the way, where Vesta does occur, but, like any other lady of the period, dressed in white tunic reaching to her feet.[b] Such mistakes as to sex are not uncommon, as may be learned by reference to Helbig's *Wandgemälde* (Nos. 96B and 71).[c]

Most persons probably would recognise in this central figure the *Genius* of the house, or of its master, and in his companions, the *Lares*; and I for one at first held that opinion without any hesitation, accounting for the serpent as a *local genius*.[d]

But although this is, I believe, the generally accepted and probably correct view, it is not altogether satisfactory, as apparently finding no place for a time-honoured class of deities specially characteristic of the Roman hearth and home, I mean the *Penates*; and so great an authority as Marquardt may be cited in favour of the view that the figures bearing emblems of abundance are the *Penates*, whose name is connected with *penus*, store of food; while the *Lar* before the time of Augustus regularly occurs in the singular when a particular house is referred to.[e]

One feels also that the two youths in question are hardly suitable representatives of the tutelary spirit of the house, the *Lar familiaris* or *familiai Lar pater*, as Plautus calls him.[f] Such a venerable character would be more recognisable in the

[a] Marriott, in *English Illustrated Magazine* for 1896, 451.

[b] Helbig, *Wandgemälde der vom Vesur verschütteten Städte Campaniens*, 65, see *Monumenti inediti pubblicati dall' Instituto di Corrispondenza Archeologica*, iii. 6a.

[c] The Dionysus of the Monument of Thrasyllus and the famous charioteer on the Mausoleum frieze have been taken for women on account of their dress.

[d] Compare the serpent in the painting inscribed "Genius hujus loci montis." *Pitture d'Ercolano*, i. 207.

[e] *See* Wissowa in Roscher's *Ausführliches Lexikon der griechischen und römischen Mythologie*, 1876.

[f] Di Penates meum parentum, familiai Lar pater, *Mercator*, v. i. 5. It is to be observed that in the above line *Penates* is connected with *parentum*, *Lar* with *familiai*. In this scene the *Penates* and the *Lar* are twice mentioned, the former (as always) in the plural, the latter in the singular. The plural *Laribus familiaribus* occurs in Plautus, viz. *Rudens*, 1207, where all the gods of the hearth are implied. In *Mercator*, 5, 2, 24, the *Lares* are *viales*, the protectors of the wayfarer.

grave personage who occupies the centre of our picture. Then the serpent would represent the *Genius*.

It should be noted, however, that Helbig (like Macrobius)[a] speaks of Jupiter and Minerva as *Penates*, and he is followed by Sogliano and others. They would therefore, I suppose, take these youths as *Lares*, and the central figure as the *Genius*. It is of course possible that the *Penates* were represented by separate figures in the round. Where doctors disagree it is confessedly difficult to decide, and there is only one thing quite certain about *Lares* and *Penates*, and that is that the Romans themselves in historic times were assuredly as much at sea on this subject as any of ourselves.

The monuments unfortunately are for the most part devoid of decisive inscriptions. There are indeed exceptions. A coin of the *Caesia gens* bears a representation of the *Lares* with their name,[b] and Mr. Grueber has also shown me a denarius of the *Sulpicia gens* of about the same date (91 B.C.), on which are figured the twin heads of the *Penates* and the inscription D. P. P.

Nevertheless these do not help us much to distinguish between the two sets of deities, for though the *Lares* are duly attended by their watchful hound,[c] they are in other respects like the pair of young spear-wielding *Penates* that Dionysius of Halicarnassus had often seen seated in temples.[d]

Writers of imperial times, as Persius,[e] speak of the "girt up" *Lares*, and it must have been hard to distinguish them from the warlike young *Penates* even in the last century of the Republic, to which these coins belong. These *denarii* represent, of course, the *Lares* and *Penates* of the State, which may well have been always plural (or rather dual); with the domestic *Lares*, however, the case is to my mind very different.

The older Roman, such as Plautus, undoubtedly speaks of a *Lar* as the one head of the family remaining in sole and undivided authority through several generations, and the somewhat crusty old *Lar* of the *Aulularia* is not at all the sort of person to brook any interference from a rival. It seems to me, too, that he cannot have been dressed in the peculiar fashion of these Pompeian household gods, for if he had it would have been quite unnecessary thus to introduce himself to his audience: "Ne quis miretur qui sim, paucis eloquar. Ego Lar sum familiaris, ex hac familia, unde exeuntem me adspexistis."[f] If the speaker had been in a

[a] *Saturnalia*, III. iv. 8.

[b] Babelon, *Description historique et chronologique des monnaies de la République Romaine*, 281.

[c] *See* Ovid, *Fasti*, v. 137-142.

[d] I. 68. [e] V. 31. [f] *Aulularia*, prologue, 1-3.

costume peculiar to *Lares*, short tunic, etc. there would certainly have been no need for such explicit announcement.

We must not forget, however, that in the age to which these Campanian pictures belong the early beliefs of ancient Rome had been totally obscured and thrown into confusion by the influx of foreign ideas, Oriental and Egyptian, as well as Hellenic, and it is asking too much of the Pompeian decorator to expect him to evolve from this tangled web the true and exact representation of Rome's primitive cult.

Much ink has been shed on this subject, but those who would learn what is to be known will save themselves much trouble and some bewilderment if they consult Wissowa's excellent article on the *Lares* in Roscher's *Lexikon*. The twenty-nine columns of close print may, for our purposes, be thus briefly summarised:

As to the domestic cultus, the word *Lar* is by older writers used almost always in the singular. But there were *Lares publici* as well as *privati*. When Augustus restored the *Compitalia*, or festival in their honour, he assigned to each *vicus*, in his fourteen *regiones* of the city, a *compitum Larum* with a pair of *Lares compitales* (one for each of the crossing roads, according to Marquardt), and the statue of his *Genius* was added to this original pair.

This innovation extended to the domestic cult, and in place of the original single *Lar familiaris* the two *Lares* of the *compita* were introduced as supporters of a central *Genius*, who, instead of the emperor of the public shrine, represented the master of the house[a] in the private *lararium*.

The theory that *Lares* were souls of ancestors will not explain such cases as the *Lares permarini*,[b] or the interest of slaves in the worship of the *Lares*.[c] We must consider them in relation to other household gods. Of these *Vesta* is the impersonation of the flame of the hearth. The *Penates* are deities of the store-chamber. The *Genius* represents the generative power of man, and is honoured as the *Genius* of the master of the house and as preserver and propagator of the family.

With the *Lares* the case is different. Their worship had its roots outside the house, and its connection with the hearth was of comparatively late origin. The idea of the *Lares* is fundamentally *local;* it belongs to the city, the district (*pagus*),

[a] *See* Helbig, *Wandgemälde*, 59 *b*, and C. I. L. 10,861.

[b] These were the deities of the sea to whom Æmilius dedicated a temple in the *Campus Martius*, *Livy*, xl. 52. *Cf.* Baehrens, *Fragmenta Poetarum Romanorum*, 54.

[c] *Cf.* Cato, *De agricultura*, 143.

the landed estate,[a] or the street (*vicus*), whereas the *Genius* originally was connected with persons.

On the denarius of L. Caesius we have the *Lares praestites*, but unfortunately nearly all our monuments of the domestic *Lares* are later than the reform under Augustus,[b] and at Pompeii *Lares* are never found painted singly. The two *Lares* are sometimes with a *Genius*, sometimes with *Vesta*, at times with both; occasionally other deities are present who may be taken as *Penates*.

According to Wissowa's view, then, we have in the picture before us the *Genius* of A. Vettius supported (*pace* Marquardt) by two *Lares*.

Putting aside the less important ornamental detail, we have still to deal with two classes of wall-paintings, viz. on the one hand the large central pictures, which may be said to represent easel-painting, and on the other the continuous line of figures forming a frieze.

These friezes in the large *oecus* (Fig. 1 E) give us a vivid picture, or rather panorama, of the arts and crafts of Italy in the first century of our era.

We see the makers of garlands with their flowers heaped on just such a table as may be seen in actual marble hard by. A goat serves them as a beast of burden to carry the flowers. How important an item wreaths were in ancient life may be guessed from the fact that Athenaeus devotes to them twenty-six sections of his fifteenth book.

Then we have a unique representation of the process of coining, of which, however, I have treated sufficiently in a paper read before the Numismatic Society.[c]

A third frieze is that of the fullers, a class in great request among a togaed people, and familiar to us in the more prosaic realism of the paintings from the Pompeian Fullonica in the National Museum at Naples.[d]

Next we see the vine-dressers, "Laeta operum plebes festinantesque coloni,"[e]

[a] Tibullus, I. i. 19, 20.

Vos quoque, felicis quondam, nunc pauperis, agri
Custodes, fertis munera vestra, Lares.

So Cicero, lucos in agris habento et larum sedes, *De Legibus*, II. 19; *cf.* 27.

[b] In the Bronze Room at the British Museum (wall-case 50 and 51), there is a shelf filled with statuettes of *Lares*, some in the later dancing pose, but others at rest, with *cornucopiæ* and *patera*, resembling the Genius. These latter, perhaps, represent the form of the *Lar* before Augustus.

[c] See the *Numismatic Chronicle* (1896), pp. 53-58, and pl. vi.

[d] *See* Helbig, *Wandgemälde*, No. 1,502; *Museo Borbonico*, iv. 49.

[e] Ausonius, *Mosella*, 163.

and the oilmakers, representatives of the two industries that, as Sir Charles Newton remarked, superseded the cultivation of corn by Roman agriculturists when the price of the latter staple was artificially lowered by the policy of the emperors.

Again, we have a wine-shop in full work; and lastly, there is a Bacchic procession with its noisy revellers.

In all these shifting scenes we find dainty little winged loves as ideal substitutes to do the work of ordinary men.

Finally we have to deal with the large pictures occupying for the most part a central position on the walls. Their importance does not rest entirely on their own merits as works of art. They are also very valuable as often giving a clue to the treatment of their subjects by the great masters of the Hellenistic, or even an earlier age; those painters of whom we glean little more than names from the meagre notices by Pausanias, or from that undigested mixture of fact and fancies the *Naturalis Historia* of Pliny.

For Helbig long ago proved that Pompeian wall-paintings of the ideal class, paintings in which execution generally falls short of conception, may to a great extent be assumed to represent more or less faithfully lost masterpieces of Hellenistic art.

The principal pictures are as follows:

1. Achilles in Scyros.
2. Herakles and Auge.
3. Urania.
4. Leander swimming to Hero.
5. Theseus deserting Ariadne.
6. Cyparissus.
7. Perseus and Andromeda.
8. A beardless Zeus.
9. The infant Hercules strangling serpents.
10. The death of Pentheus.
11. Dirce and the Bull.
12. Daedalus and Pasiphae.
13. Ixion on the wheel.
14. Dionysus discovering Ariadne.
15. Contest between Pan and Eros.

Of the first eight little is to be said.

No. 1 is unfortunately half ruined. The subject of Achilles in Scyros had been previously found seven times at Pompeii.[a]

In No. 2 we have almost a fac-simile of the painting in the *Casa d'Ercole et d'Augia* at Pompeii.[b]

In No. 3 Urania points with a wand to a globe marked with astronomical signs and standing on a square basis, just as she did in the picture formerly to be seen in the "Villa of Diomed," and others of the seven Pompeian renderings of this subject given by Helbig.[c] Sogliano adds three examples.[d]

No. 4 is a poor performance. The subject occurs four times elsewhere in Pompeii.[e]

Nos. 4 and 5 are inferior to the rest. The exaggerated proportions of the Theseus in the latter may be attributed to a desire to emphasize the hero by comparative size, as is often done in the case of deities. Or there may be an idea of caricature.

Ariadne deserted by Theseus appears in Helbig's catalogue no fewer than seventeen times,[f] one instance being from Herculaneum, an example which, formerly in the Blacas collection, is now in the British Museum, in wall-case B in the Gold-ornament Room. In Sogliano's supplement there are seven more.[g]

This abandonment of Ariadne was a favourite theme both in the art and the literature of ancient Greece and Rome.[h]

According to Helbig[i] the composition should be ascribed to the time of Alexander or to that of the Diadochi.

Ariadne's desertion by Theseus and her discovery by Dionysus formed part of the pictorial decoration of a temple of Dionysus at Athens, as did also the death of Pentheus,[j] from which our No. 10 may be derived.

[a] For examples of this subject in relief see the sarcophagus in the Mausoleum Annexe at the British Museum; also Robert, *Die antiken Sarkophag-Reliefs*, ii. plates vi. x.; and Visconti, *Museo Pio Clementino*, v. 17.

[b] Helbig, *Wandgemälde*, 1142. Two more examples are recorded by Sogliano, *Le Pitture murali compane scoverte negli anni* 1867-79, 499 and 500. The Rape of Auge is represented on a Megarian bowl, G 103, in Case E in the Fourth Vase Room, British Museum. See *Classical Review* (1894), p. 326. *Cf.* Furtwängler, *Collection Sabouroff*, i. pl. 73.

[c] *Wandgemälde*, 263, 889-893.

[d] *Pitture*, 243-425.

[e] Helbig, *Wandgemälde*, 1374, 1375; Sogliano, *Pitture*, 597, 598.

[f] 1216-1232.

[g] Nos. 531-537.

[h] See the famous passage in Catullus, lxiv. 52, *seqq.*

[i] *Untersuchungen über die Campanische Wandmalerei*, 157.

[j] Pausanias, i. 20, 2. *See* Helbig, *Untersuchungen*, 256.

No. 6, Cyparissus, has been found four times before at Pompeii.[a] His story is told by Ovid.[b]

Of Perseus and Andromeda (No. 7) twenty-one examples are recorded by Helbig.[c] These, however, represent Andromeda either close to the cliffs, or seated with Perseus, as do the three added to the list by Sogliano,[d] while in our new picture Perseus is bearing her through the air.



Fig. 4. Wall painting of the death of Pentheus, in the house of A. Vettius at Pompeii.
(From a photograph by Brogi, of Naples.)

[a] Helbig, *Wandgemälde*, 218, 219; Sogliano, *Pitture*, 109, 110.
[b] *Metamorphoses*, x. 106-142.
[c] *Wandgemälde*, 1183-1203.
[d] *Pitture*, 517-519.

No. 8 is an unusual type of Jupiter. No certain instance of a beardless Jupiter is recorded by Helbig as occurring in Pompeii or Herculaneum.[a]

Nos. 9, 10, and 11, which decorate a *triclinium* (fig. 1 F) by the peristyle,[b] form an important group, the subjects of all three, it will be observed, being derived from the mythical history of Thebes. The death of Pentheus (fig. 4) has never before been found among the Campanian wall-paintings. A photograph of the newly-discovered picture was exhibited at the Society's meeting on December 5th, 1895, by the President, who drew attention to its remarkably modern look.[c]

I shall not, however, dwell upon this Theban group, as it forms the subject of a paper of mine in the *Journal of Hellenic Studies*.[d] Suffice it here to say that in my opinion there are some reasonable grounds for deriving all three of the paintings in question from originals by famous artists living when the influence of the tragedian Euripides was still a powerful factor in Hellenic art.

Another of these richly decorated chambers (fig. 1 G and fig. 2) has, facing the entrance, Ixion on the wheel (fig. 5); while the wall on the left contains Dædalus and Pasiphäe; that on the right Dionysus discovering Ariadne.

Mr. A. S. Murray has pointed out to me a peculiarity in the first of these three pictures, viz. that Ixion is turned with his face to the wheel. His small size is by way of contrast with the gods beside him, for at this late period his former glories were forgotten, and he was looked upon as a criminal to be consigned to infernal darkness as a fit companion for Sisyphus and Tantalus. This, however, is an innovation. The older poets and artists of Greece knew Ixion as a dweller in heaven; and even after his crime and its consequences he was still supposed to remain above the earth. In fact, as Baumeister remarks,[e] he was originally a god, and perhaps the sun-god. It was not till Roman times that he became the fellow-prisoner of Sisyphus and Tantalus; and Apollonius Rhodius[f] (194 B.C.) is the earliest author who makes the lower world the scene of his punishment.

This picture of Ixion seems to be unique among the Campanian wall-paintings. I cannot find one in Helbig's index, or in Sogliano's, or in that of Overbeck's *Pompeji* (last edition, 1884).

Of the three known vases containing this subject, one, the cantharus from

[a] See *Wandgemälde*, 5.

[b] Sogliano, *Il supplizio di Dirce*, 8, note 1.

[c] As to Pentheus, see Hartwig in the *Jahrbuch des Kaiserlich deutschen archäologischen Instituts* (1892), 153.

[d] Vol. xvi. 143-157.

[e] *Denkmäler des Klassischen Altertums*, 766.

[f] III. 61, 62.

Nola, formerly in the Pourtalès Collection, now in the British Museum,[a] represents the preliminary phase when Ixion is brought before Hera, though not yet bound to the wheel, which is seen beside him in charge of Athena. On the other



Fig. 5. Wall painting of Ixion bound to the wheel, from the house of A. Vettius at Pompeii.
(From a photograph by Sommer, of Naples.)

side of this fifth-century vase are depicted, as Mr. Cecil Harcourt Smith has pointed out,[b] still earlier steps in this typical evil doer's career of violence.

[a] It is E 155, in the Third Vase Room, Case G. *See* Kluegmann, *Memorie dell' Instituto di corrispondenza archeologica*, 2, p. 388, and Raoul-Rochette, *Monuments inédits*, pl. xl.

[b] See *Classical Review*, ix. 277.

[c] *Op. cit.* pl. xlv. p. 179, note 3. *Cf.* Stephani, *Compte-rendu de la Commission Impériale archéologique* (1862), 157.

Again, Raoul-Rochette[c] describes an amphora found at Ruvo, on the neck of which Ixion is represented as fastened to the wheel (but not with serpents) in the presence of Zeus (according to Raoul-Rochette Æacus), Hephaistos, Iris, who carries the *caduceus*, and another winged figure.

The third vase is a red-figured Campanian amphora found at Cumae, and now in the Berlin *Antiquarium*.[a] Here Ixion, in the open air, is attached to the wheel by a serpent for each hand and foot, while two of larger size twine round him. The persons present are an Erinys, two winged females (perhaps Clouds), Hermes, and Hephaistos.

The Barberini "Protesilaos" sarcophagus in the Vatican[b] has on one end Ixion, between Sisyphus and Tantalus, in accordance with the later version of the story. Here also Ixion is bound to the wheel, but there are no serpents.

A second sarcophagus is mentioned by Kluegmann[c] as follows: "l'altro conservato solamente in un disegno del codice Pighiano (Jahn Ber. d. sächs Gesellsch. 1856 tav. II, a)."

To these Kluegmann adds a miniature in a manuscript of Vergil.[d] Here too there are no serpents.

In the gold-ornament room at the British Museum (No. 334, case U) there is a comparatively late Etruscan scarab representing Ixion "standing to front with hands tied to rim of large wheel behind him, inscribed IΨΣIVN."[e]

Our Pompeian picture then is a most welcome addition to the still scanty stock of monuments which illustrate the curious myth of Ixion.

In No. 12, the voluptuous frame and sensual expression of the infatuated Pasiphae contrast well with the skilled artificer's sinewy form. Our picture corresponds with those previously found in Pompeii.[f]

The Dionysus (No. 14) has suffered more than its two companion pictures.

This discovery of Ariadne by Dionysus has previously been found, according to Helbig, seven[g] times in Pompeii and once in Herculaneum. In all instances but one Ariadne is sleeping, as she is in the Pompeian example which Sogliano adds to this list.[h]

As in many other cases, the close relation of these numerous replicas points to

[a] Furtwängler, *Beschreibung*, 3023.

[b] Visconti, *Museo Pio Clementino*, v. 19.

[c] *Memorie dell' Instituto di corrispondenza archeologica*, ii. 391, note 2.

[d] Mai, *Pict. Ant.* tav. xv.

[e] *Catalogue of Gems*, 68.

[f] Helbig, *Wandgemälde*, 1206-1208.

[g] *Wandgemälde*, 1233-40.

[h] *Pitture*, 538. *Cf.* the relief on a sarcophagus, Visconti, *Museo Pio Clementino*, v. 8.

their descent from a common archetype. This archetype Helbig finds in a painting seen by Pausanias[a] in a temple of Dionysus at Athens.

Last, but by no means least, in the above list is the contest between Pan and Eros,[b] which occupies the chief position in another apartment (fig. 1 H), beneath a seated Leda with the swan. In Herculaneum there was found a picture corresponding in almost every detail with the one now before us. A similar picture was discovered at Pompeii, but in too damaged a state to allow of the recognition of details.[c] In two other Pompeian paintings recorded by Helbig the pair of wrestlers appears, but Dionysus is not to be seen.

Sogliano has added an instance,[d] in which there are, indeed, the wrestlers, but Aphrodite alone is with them, and they are about equal to her in size; Pan looks quite old, and there is, in short, no resemblance to our picture.

For examples of this favourite subject, however, we need not confine our search to the Campanian wall-paintings. The wrestling bout of Pan and Eros is to be found in other classes of artistic products. Thus the Berlin *Antiquarium*[e] contains this group in a clay imitation of a metal cup; and in Mr. Salting's collection, now exhibited at South Kensington, it appears in the form of a terracotta from Tanagra.

Whether our Vettius was a kinsman of the Vettii who appear in the pages of Tacitus, in connection with the imperial court, it is impossible to say. That he was a man of importance and of taste is pretty clear; and whatever he may have been to his own folk in the first century, he must be reckoned as a benefactor to us, his heirs, in the nineteenth.

In discussing the above paper, our Fellow Mr. H. A. Grueber, stated that he was of opinion that the series of wall-paintings representing arts and manufactures was intended to illustrate the occupations and history of former members of the *Vettia gens*. He came to this conclusion from the circumstance of the scene showing the process of striking coins at the mint. Unless something of this nature is intended we cannot well account for such a scene in the house of an apparently private individual.

[a] I. 20, 3. See *ante*, p. 12; and my paper in the *Journal of Hellenic Studies*, xvi. 143-157.

[b] This contest between Pan and Eros, the Theban trio, and the Cyparissus were all discovered in the first five days of November, 1894. See *Notizie degli Scavi*, December, 1894, p. 466.

[c] Helbig, *Wandgemälde*, 404, 405.

[d] *Pitture*, 381. See *Monumenti*, x. tav. 35; *Annali* (1876), p. 296.

[e] XVIII. 3.

Various members of the family of the Vettii filled the post of moneyers at Rome during the first century B.C.

Of P. Vettius Sabinus, who was a moneyer or mintmaster in B.C 101, there is a quinarius, with the head of Jupiter on the obverse, and victory crowning a trophy and the legend, P. SABIN. Q. (Quinarius) on the reverse. This coin appears to have been coined on a special occasion, when there was a large distribution of corn at Rome amongst the populace.

Again, in B.C. 69, we find another member of the family, T. Vettius Sabinus, occupying a similar post. His coins, which are of the denarius class, have on the obverse the head of Tatius, king of the Sabines, and the legend, SABINVS; and on the reverse, Spurius Vettius in a *biga*, and the name of the moneyer, T. VETTIVS IVDEX.

The obverse shows that the family was of Sabine origin, and the reverse records the efforts of Spurius Vettius to secure the election of Numa Pompilius as king. The moneyer had held and still held the post of Curule Ædile, and so adds the title of "Judex" to his name.

Taking this scene in conjunction with the others in the house, it is pretty evident what was the object of the owner in causing them to be painted. He was perfectly impartial, and wished to show, not only the important state office which a former member of the family had held, but also by what means the family had acquired its wealth. For to have been able to erect and adorn a domicile in such a style the owner must have been provided with ample means.

XV.—*The Prebendal Stalls and Misericords in the Cathedral Church of Wells. By the* Rev. C. M. Church, *M.A., F.S.A., Sub-Dean and Canon Residentiary of Wells.*

Read 12th March, 1896.

I propose in this paper to trace the history of the prebendal stalls in the church of Wells, their number and original arrangement in choir and chapter, and to describe the carved "misericords" still remaining in the stalls.

The eastern part of the church in the thirteenth century was separated from the nave by the choir screen or *pulpitum*, which, crossing nave and aisles, rested against the columns of the first bay westward of the central tower.

The stalls of the choir occupied the space under the open lantern of the tower for 47 feet from the screen to the eastern arch of the tower; the presbytery and sanctuary extended 67 feet further eastward to the high altar.

The number of the stalls was regulated by the number of the prebends founded in the church. That number, which had varied by gradual growth and loss during the century between the episcopate of Robert, 1136—1166, and the reconstruction of the church by bishop Jocelin, 1239, was completed when Dynre (Dinder), the last prebend, was instituted in 1268.[a]

[a] Prebends instituted by

Bishop Robert	20 — 2 lost.
Bishop Reginald	15 — 5 lost.
Bishop Savaric	3
Bishop Jocelin	15
Bishop William	1
Date uncertain	7
	61 — 7 = 54.

Chapters in Early History of Wells, 17, 66, 119 142.

Two official lists of the Wells prebends and dignitaries, made at the end of the thirteenth century, confirm the number and title of the prebends, viz.:

(a) The return of ecclesiastical property in the first Edward's reign, called the *Taxation of Pope Nicholas the Fourth*, about 1291, in which the beneficial value of each prebend and dignity was estimated.

(b) The order of distribution of the psalter among the prebends for daily recitation which accompanies the statutes of Dean Haselshaw in 1298.

The daily recitation of the whole psalter by the members of the chapter, according to the psalms assigned to their respective prebends, formed part of the *Consuetudines* introduced by the Norman bishops, who moulded the constitution of the English cathedral churches in the twelfth century.[a]

The particular assignment of psalms to prebends must have varied according to the number of prebends, but the following arrangement at Wells, made at the end of the thirteenth century, was complete and final, and long prevailed.[b]

This list is the fullest enumeration of the prebends, according to their titles, in the thirteenth century. The bishop, though not possessing a prebend, is here united with members of the chapter, and occupies his stall both in choir and in chapter-house.

Singulis diebus dicat Dominus Episcopus hos psalmos cum confratribus et prebendis totum psalterium quolibet die ut patet inferius.

	Ps. i.	*Beatus vir qui.*	[bonus.]
	Ps. ii.	*Quare fremuerunt gentes.*	
	Ps. iii.	*Domine quid.*	
Wedmore I.	Ps. iv.	*Cum invocarem.* Cum tribus psalmis sequentibus.	
Clyva	Ps. viii.	*Domine Dominus noster*	
	Ps. ix.	*Confitebor tibi domine*	
	Ps. x.	*Ut quid.*	
Sanctus Decumanus	Ps. xi.	*In Domino confidam.* Cum tribus psalmis sequentibus.	
Cumba I.	Ps. xv.	*Domine quis habitabit.* Cum duobus psalmis sequentibus.	
Cumba XII.	Ps. xviii.	*Diligam te domine.*	

[a] H. Bradshaw.

[b] There is a memorandum in the Chapter Acts 1623, September 17, "Psalmi in choro legendi assignati præbendariis post admissionem," which shows that the use had prevailed, but probably intermittently.

Cumtona	Ps. xix.	*Cœli enarrant gloriam.* Cum duobus psalmis sequentibus.	
Iattona	Ps. xxii.	*Domine Deus meus respice.* Cum duobus psalmis sequentibus.	[Ps. 22, 23, 24 (in later hand).]
Haselberga	Ps. xxv.	*Ad te domine levavi.* Cum tribus psalmis sequentibus.	
Wandestre	Ps. xxix.	*Afferte Domine.*	
	Ps. xxx.	*Exultabo te.*	
	Ps. xxxi.	*In te Domine speravi.*	
Scanderforde	Ps. xxxii.	*Beati quorum.*	[boni.]
	Ps. xxxiii.	*Exultate justi.*	
	Ps. xxxiv.	*Benedicam.*	
Wedmore II.	Ps. xxxv.	*Judica Domine.*	
	Ps. xxxvi.	*Dixit injustus.*	
Cumba II.	Ps. xxxvii.	*Noli æmulari.*	
	Ps. xxxviii.	*Domine ne in furore.*	
Cumba III.	Ps. xxxix.	*Dixi custodiam.* Cum duobus psalmis sequentibus.	[domine.]
Cumba IV.	Ps. xlii.	*Quemadmodum.* Cum duobus psalmis sequentibus.	
Boklonde	Ps. xlv.	*Eructavit cor meum.* Cum tribus psalmis sequentibus.	
Mylverton I.	Ps. xlix.	*Audite hæc omnes gentes.* Cum tribus psalmis sequentibus.	
Hengestrynge	Ps. liii.	*Dixit insipiens.* Cum tribus psalmis sequentibus.	
Tymberscombe	Ps. lvii.	*Miserere mei Deus miserere.* Cum duobus psalmis sequentibus.	
Ayshulle	Ps. lx.	*Deus repulisti nos.* Cum tribus psalmis sequentibus.	
Cumba V.	Ps. lxiv.	*Exaudi Deus orationem.* Cum duobus psalmis sequentibus.	
Estona	Ps. lxvii.	*Deus misereatur nostri*	[dominus.]
	Ps. lxviii.	*Exurgat Deus et dissipentur.*	
Iltona	Ps. lxix.	*Salvum me fac domine.*	
	Ps. lxx.	*Deus in adjutorium.*	
Cumba XIII.	Ps. lxxi.	*In te domine speravi.*	
	Ps. lxxii.	*Deus judicium tuum.*	

Dunden	Ps. lxxiii.	*Quam bonus Israel Deus.*	
	Ps. lxxiv.	*Ut quid Deus repulisti.*	
Cumba XIV.	Ps. lxxv.	*Confitebimur tibi.*	
	Ps. lxxvi.	*Notus in Judæa.*	[mundo.]
	Ps. lxxvii.	*Voce mea.*	
Cumba VI.	Ps. lxxviii.	*Attendite populo.*	[juris sui.]
Dulticote	Ps. lxxix.	*Deus venerunt.*	[domine.]
	Ps. lxxx.	*Qui regis Israel.*	
Taunton	Ps. lxxxi.	*Exultate Deo.*	
	Ps. lxxxii.	*Deus stetit.*	
Brent	Ps. lxxxiii.	*Deus quis similis.* Cum duobus sequentibus psalmis.	
Wyvelscumba	Ps. lxxxvi.	*Inclina domine.*	
	Ps. lxxxvii.	*Fundamenta ejus.*	
	Ps. lxxxviii.	*Domine Deus salutis.*	
Ilmynistra	Ps. lxxxix.	*Misericordias Domini.*	
Suttona	Ps. xc.	*Domine refugium.* Cum tribus psalmis sequentibus.	
Holecumba	Ps. xciv.	*Deus ultionum.* Cum duobus psalmis sequentibus.	
Wereminster	Ps. xcvii.	*Dominus regnavit.* Cum tribus psalmis sequentibus.	
Cumba VII.	Ps. c.	*Jubilate Deo omnes.* Cum duobus psalmis sequentibus.	
Cory	Ps. ciii.	*Benedic* i tantum.	
Wormesterr	Ps. civ.	*Benedic* ii tantum.	
Witlakyngton	Ps. cv.	*Confitemini* i tantum.	
Cumba XV.	Ps. cvi.	*Confitemini* ii tantum.	
Mylverton II.	Ps. cvii.	*Confitemini* iii tantum.	
Wedmore III.	Ps. cviii.	*Paratum cor meum.* Cum duobus psalmis sequentibus.	
Berton	Ps. cxi.	*Confitebor tibi domine.* Cum tribus psalmis sequentibus.	
Cumba VIII.	Ps. cxvi.	*Dilexi quoniam.* Cum tribus psalmis sequentibus.	
Wedmore IV.	Ps. cxix.	*Beati immaculati in via.* Cum tribus psalmis sequentibus.	[boni.]

Cuddeworthe	Ps. cxix.	*Bonitatem cum servo tuo.* Cum duobus psalmis sequentibu . (65—112.)	
Cumba IX.	Ps. cxix.	*Iniquos odi.* *Mirabilia.* *Clamavi.* (113—160.)	
Cumba X.	Ps. cxix.	*Principes persecuti.* Cum quinque psalmis sequentibus (161—176. Ps. cxx.—cxxiv.).	
Wytchyrche	Ps. cxxv.	*Qui confidunt in domino.* Cum sex psalmis sequentibus.	
Harpetre	Ps. cxxxii.	*Memento domine David.* Cum quatuor psalmis sequentibus.	
Cumba XI.	Ps. cxxxvii.	*Super flumina Babil.* Cum duobus psalmis sequentibus.	
Wedmore V.	Ps. cxl.	*Eripe me Domine.* Cum tribus psalmis sequentibus.	[Ps. 140, 141, 142 (in later hand).]
Dynre	Ps. cxliv.	*Benedictus Dominus Deus.* Cum duobus psalmis sequentibus.	
Lutton	Ps. cxlvii.	*Laudate dominum Lauda Ierusal.*	
	Ps. cxlviii.	*Laudate dominum de celis.*	

Singulis diebus dicetur totum psalterium a predictis Prebendis pro fratribus et benefactoribus Wellensis ecclesiæ.

Bydsam prebenda Sancti Andreæ.

Cujus vicarius est Magister Scolarum.

The Psalter was divided among the bishop and fifty-three prebends, and there was another prebend, that of Bydsam (Biddisham), to which no psalms were assigned, making the number of prebends at the time fifty-four. The prebend of Bydsam was instituted by bishop Robert to form a fabric fund for the church of St. Andrew, the saint himself was the titular prebendary, and the "master of the schools" held the place of his vicar in the church. Perhaps the two last psalms, 149-150, which are not assigned, were left as the portion of the Saint in the daily *Te Deum* of his church.

This prebend was soon swallowed up and became annexed to the decanal estate, and it does not appear in the lists of later years.

The psalms in this table are assigned to prebends only, and not to dignities, except so far as certain prebends were annexed to offices and dignities. For so at

this time the prebend of Wedmore Prima was attached to the office of the dean, and the dean sat in the stall of Wedmore; the archdeacon of Wells held the stall of Huish and Brent, and the archdeacon of Taunton the stall of Milverton Prima. The stall of Clyve (Cleeve) was the prebendal stall of the abbot of Bec, in Normandy, admitted as a non-resident canon on condition of his appointment and payment of the stall wages of a vicar choral in the church. The abbots of Muchelney and Athelney held their prebendal stalls of Ilminster and Sutton on the same terms.

The table of prebends in the contemporary list drawn out a few years earlier under the *Taxation of Pope Nicolas IV.* in 1291, contains almost all the same prebends, with the exception of Holcombe, Shalford, Barton, and Warmynster. The dignities, thirteen in number, are also represented; the six above-mentioned dignities have their stalls annexed, and there are seven more, precentor, chancellor, treasurer, the archdeacon of Bath, subdean, succentor, provost of Wells, each with a stall.

In this table the money value only of the several prebends and dignities is estimated.

The number and titles of prebends contained in these two lists at the end of the thirteenth century remained the same through the next two centuries, and down to 1536.

In 1536, the twenty-sixth year of Henry VIII., the king's commissioners were appointed to make a survey, and to return a report upon all church property throughout the kingdom.

The report is contained in the *Valor Ecclesiasticus* of 1536.

A comparison of these tables of the titles and value of the prebends made at such different times as the thirteenth and sixteenth centuries presents remarkable uniformity of result.

In the returns of 1298 and 1536 it appears that there were fifty-four prebends and thirteen dignities, for whom stalls had to be provided. But six of the thirteen dignities had prebends annexed, so that the total number of stalls necessary may be reckoned as sixty-one.[a]

It is difficult to calculate the relative number of the canons who were resident, and of those who were represented by vicars choral. Provision was made for the whole number of canons in choir and chapter-house, on the theory of the whole number being present at least at times; but data from the registers show how few in proportion were actually resident.

[a] 54 + 13 = 67 — 6 = 61.

In 1206 the number of names who subscribed to the instrument of bishop Jocelin's election was 55.[a] The following table supplies the number of residents, so far as can be gathered from the registers, in different years :

1259.	Six dignitaries and 12 canons = . .	18
1284.	After summons for election of a dean, 30 mentioned by name were absent.	
1327.	Six dignitaries present, in all . . .	16
1328.	Five dignitaries, 10 canons present . .	15
1343.	,, ,, . .	19
1392.	,, ,, . .	20
1393.	,, ,, . .	20
1401.	,, ,, . .	16
1408.	,, ,, . .	19
1409.	,, ,, . .	16

In sixteen years, between 1415 and 1547, sixteen and eleven were the highest and the lowest numbers.

In theory each canon who did not come into residence, or was incapable of taking his place, was bound to be represented in the church by a vicar choral. But this rule practically must have had considerable limitations.

Stipends or "stall wages" were due from every prebend (except two or three, as it appears[b]), on a fixed scale proportionate to the value of the prebend, to the vicar choral. At the time of the *Valor* of 1536 there were thirty vicars choral in receipt of stall wages. By the charter of Elizabeth, 1592, the number of vicars choral was fixed; they were to be not more than twenty and not less than fourteen in number.

Probably the number of stalls provided in choir and chapter-house was regulated only by the number of dignities and prebends, for the vicars occupied the stalls of their absent masters, and there were seats provided for them in the lower row, sufficient for the number who would be usually in residence.

The history of the stalls follows upon this description of the prebends.

In the reconstruction of the church in the fourteenth century the chapter followed the number, order, and arrangement of the stalls in choir which had

[a] Some of these names may be ecclesiastics or laymen, but not canons.

[b] It appears from the Valor of 1536, that the prebends of Holcombe and Cory, at the date of that table, had no vicars, but paid towards the "ceroferarius" or taper-bearer, one of the boys who carried a taper in processions.

been ordained in the thirteenth century. It was necessary at that time to build new stalls because the old stalls of Jocelin's time were in a state of decay, and unsuitable to the new choir.

Great works were going on at Wells during the first half of the fourteenth century. The chapter-house had been finished in 1319; the central tower was being raised; the eastern Lady Chapel is described as "lately constructed" in 1326.

In November, 1325, there is a memorandum in the chapter register that bishop John of Drokensford had given one-half of the proceeds of his visitation to the "new work" of the church. In January, 1325-6, the bishop sent letters[a] to each deanery of the diocese urging all rectors and clergy to stir up their people jointly and severally to aid "the new work," to the exclusion of all other claims, promising forty days indulgence *de injunctis*. Rolls of benefactors were to be sent in, that they "may have all benefit of the spiritual acts of the cathedral body." The great and new work which was now in hand was the extension of the church eastward to its present dimensions. The presbytery of the earlier church of the thirteenth century became the new choir, the presbytery and sanctuary were thrown out eastward, and the church was connected with the detached Lady Chapel by the arcading of the ambulatory or processional path behind the high altar. This work, begun by dean Godelee, was going on during the episcopate of bishop Ralph; and probably it had been completed, when in 1363 the bishop, Ralph, was buried before the steps of the choir and the high altar in the place of the founder or finisher of the church, just as Jocelin had been laid before the altar of the church of his time in 1242.

It was as a part of this great work, and in special preparation for the new choir, that new stalls were ordered to be made by successive chapter acts in 1325 and 1326.

On the vigil of St. Martin, 1325,[b] it was ordained by the dean, John de Godelee, and the chapter, that whereas the stalls in choir were decayed and of bad style, *ruinosi et deformes*, each of the dignitaries and those in office should cause to be constructed their own stall at a cost of thirty *solidi* each.

But the work was great. The money did not come in speedily, and twelve years after, in 1337, dean Walter de London, in chapter, reviewed the unfinished state of the work. Though the resident canons who had borne the burden and heat of the day, *pondus diei et æstus*, had spent more than £1000, there still

[a] Drokensford Register (Som. Record, f. 242). [b] R. i. f. 173.

remained a debt upon the church of £200. The dean complains that the non-resident canons (many of whom held the richer prebends) had contributed nothing, "ab omni contributione et subsidio pro defensione et restauratione facienda penitus abstinuerunt," and he calls upon them to bear their part and to come forward, "ad honorem Dei et celeriorem exornationem ecclesiæ."[a]

Then it was ordered that the £200 should be raised by the taxation of the prebends of all non-resident canons who had not contributed to the work.

The new prebendal stalls were now constructed, which remained in the church until the middle of the present century.

The arrangement of the stalls and the order in which dignitaries and canons took their places in the church are thus prescribed in the ordinal and statutes of the thirteenth century.[b]

In the return stalls on the south side at the entrance of the choir, the dean occupied the first stall belonging to the prebend of Wedmore Prima.

Next to him on the right stood the archdeacon of Taunton, if he were a canon (*si fuerit canonicus*), in the stall of Milverton Prima, then the abbot of Bec in the stall of Clyva (Old Cleeve), then the sub-dean.

[a] R. i. f. 200.

Item quia stalli in choro sunt ruinosi et deformes ordinatum fuit eodem die quod quilibet canonici qui sunt in dignitate et officio constanti sumptibus privatis faciant stallos suos et ad hoc si necessarium sit per decanum compellantur.

Item ordinatum fuit per decanum et capitulum in crastino circumcisionis Domini anno Domini 1325, in capitulo quod quilibet canonicus solvet pro stallo suo faciendo xxx solidos, videlicet medietatem in quindena purificationis sancte Marie proxima sequente et aliam medietatem in festo Sancte Michaelis proximo sequente.

Collectors were appointed to receive gifts and enforce payment by ecclesiastical censures.

R. i. f. 174 in dors.

Johannes de Godelee decanus Ecclesie Wellensis et ejusdem loci capitulum discretis viris Roberto de Wamberg concanonico nostro et officiali de Mydelton clerico, salutem.

Cum nuper nobis in domo capitulari Ecclesie Wellensis predicte convenientibus ad honorem dei et decorem ipsius ecclesie propter debilitatem et vetustatem stallorum nunc in ipsa ecclesia existentium certam pecunie summam a singulis concanonicis nostris certis temporibus solvendam pro novis stallis in eadem ecclesia faciendis unanimi nostro consensu concurrente ordinaverimus, vero pro hujus pecunie receptione ad presens intendere non valemus, ad colligendam et levandam hujusmodi pecuniam literamque acquietantie faciendam de soluto, et etiam de non solvendis censuris ecclesiasticis si necessarie fuerunt canonice compellandum, vobis et utrique vestrum et conjunctim et divisim vices nostras committimus cum coercionis canonice potestatis.

Datum in capitulo nostro nonas Januarii 1325.

[b] "Ordinatio clericorum in choro et in capitulo," Creyghton MS. in library of the Dean and Chapter of Wells, copied in Lambeth Library MS. 729, and printed in Reynolds' *Wells Cathedral.*

In the return stalls, on the north side, first was the stall of the precentor, at the entrance of the choir, then stood the abbot of Muchelney in the stall of Ilmynster, then the succentor, and the provost of Combe.

The stall of the bishop was at the extreme east end of the choir on the south, next to him on the west was the archdeacon of Wells in the stall of Huish Brent, and the chancellor. Opposite on the northern side stood the archdeacon of Bath, the treasurer, and the abbot of Athelney in his stall of Long Sutton.

We do not find any fixed order for other stalls.

In the middle stalls on the north and south, in the upper row, stood the canons senior in order of installation or of age, the master of the schools in the stall of Bydsam (Biddisham), priest-vicars, and deacons admitted by dispensation (*ex dispensatione*). In the lower row of stalls were younger deacon canons, and deacons and sub-deacon vicars, and other clerks, perhaps chantry priests.

There were two forms for the boys. The boys on the foundation, *pueri canonici*, on the first form; others, probationers perhaps, on a lower form, according to age and size.

Such was the arrangement of the stalls in the choir, but a different arrangement was observed in the chapter-house.

According to the original idea of a chapter, the canons met in the chapter-house for their public and private business, as being the council chamber of the bishop, the parliament house of the diocese, the daily home of the chapter, *domus capitularis*. The bishop's stall was in the centre of the eastern facet of the octagonal hall, and the stalls of the leading members of the capitular and diocesan hierarchy were gathered round him in stalls in close proximity on either side.

On his right hand sat the dean, then the archdeacon of Wells, the chancellor of the church, the archdeacon of Taunton, the abbot of Bec, and the subdean.

On the left hand of the bishop were the stalls of the precentor, the treasurer, the archdeacon of Bath (if he were a canon), the abbot of Muchelney, the abbot of Athelney, and the succentor.

In the upper row of stalls in the octagon the canons sat in order, priests, deacons, and subdeacons, and possibly the priest-vicars, *ex dispensatione*, by tolerance, but without a voice in chapter. On the lower bench vicars who were deacons, and subdeacons and other clerks in minor orders. On the floor stood the boys, in their order on either side of the desk (*pulpitum*), which stood east of the central pillar, and before the bishop's stall.

Such was the provision made for the fit and orderly assembly, day by day, of the staff, and of the rank and file of the church in their chapter-house for public religious observances by the whole body, and for the transaction by dean and

chapter of their own business in privacy, with closed doors. The beautiful chapter-house was not, as now, a bare and empty hall for most days of the year, but it was the daily home and centre of the life of the community, where each member held communion and fellowship one with another and with their brethren departed. Every morning when the office of prime was over, at 9 a.m., and before the chapter mass in the church, the choir passed in orderly procession up the great ascent of stairs into the chapter-house.

The business of the day was preceded by an office, the Martyrology or commemoration of the faithful departed members of the body, the Psalm cxx. (*Levavi oculos*), or on special occasions the *De Profundis*, were said, and the lection of the season was read, all standing in their places. The obits or anniversaries of benefactors were announced from the *pulpitum* in front of the bishop's stall, and the appointed services for special days, and on Saturday for the week, which had been drawn up by precentor or succentor, were read out. Then followed the business transactions, hearing of complaints, making of inquiries, passing of sentences, correcting of faults before the whole body; then, when the vicars and choristers had left, the private conferences, the decrees and ordinances of the dean and chapter.[a]

So the meeting day by day in the chapter-house formed part of the daily life of the cathedral body; all had their places and their several interests in this common home of the community, so stately and so beautiful, to which founders and architects and workmen of two generations had given their best, in order that the house of the business of the church should be a worthy appendage to the house of worship and the house of God.

In the sixteenth century we enter on the period of innovation upon the old constitution, and of the degradation of the fabric and of its interior arrangements.

The *Valor Ecclesiasticus* of Henry VIII., in the year 1536, may be taken as one of the closing acts of the medieval period of the church establishment. It was a deliberate survey of the church property, and of the money value of its offices and benefices, made by the king on the very eve of the violent alienation of a great portion of that property and the breaking-up, for good or evil, of the old order.

[a] 1506, Nov. 3. "'The Book of the Statutes' and the book called 'the Blak register' to be "chained on the great chest in the chapter-house. Each canon to have a key. Precentor to make chains and keys for each canon 'ex sumptibus ecclesie.'" Reynolds' *Wells Cathedral*, App. iii. from Liber Ruber, p. 217.

1507, May 13. "The ordinance of the chantry of bishop Bekinton of blessed memory was read in the chapter-house." Reynolds, i. 225.

Assessment was soon followed by spoliation; the church of Wells suffered in its turn at the hands of spoilers.

In the next year, 1537, Thomas Crumwell, the "vice-gerent" and "lord privy seal," was elected dean of Wells at the recommendation of the king. During the three eventful years in which he was dean, the complete spoliation of the monasteries was carried out to the bitter end under his administration. The trial or judicial murder of Richard Whiting, abbot of Glastonbury, in the palace at Wells, in November, 1539, was one of the last acts of the tragedy. It preceded Crumwell's own fall and execution by eight months, on July 28th, 1540.

During those three years Crumwell had not time to do much at Wells, but he had called for returns of the statutes and of the property of the church. An inventory of the jewels and valuables of the church was ordered to be prepared, and a revision and reform of the statutes had been purposed by him. On his fall, and on Henry's death, another band of spoilers gathered round the boy-king Edward, and the houses and lands of bishop and chapter were the next objects of their greed. As in the case of the monasteries, forced or selfish surrenders preceded plunder.

In 1540 Fitzwilliam succeeded Crumwell as dean, the last dean ever elected by the chapter of Wells after licence from the bishop. In 1547, the first year of Edward VI., Fitzwilliam surrendered the dean's estates and house to the Crown, and house and manors were made over to the protector Somerset. A new deanship was "re-created" by Act of Parliament, and a new dean was appointed by the Crown, Goodman by name, but shorn of his former estates and of his goodly house, and scantily endowed out of "parcels" of the archdeaconry of Wells and the estates of the suppressed provostship of Wells, and of the succentorship.

The archdeacon of Wells at that time was the notable Polydore Vergil, an Italian from Urbino, naturalised in England, the last collector of Peter's pence in England, the first foreign writer of a connected history of England.[a] He, too, had surrendered the archdeaconry in 1547, its estate and house, at the price of a life interest in the profits, rents, and commodities of the archdeaconry, and he was allowed by the favour of Henry a peaceful retirement to Urbino, free of pains, penalties, and forfeiture, where he lived until 1555-6.

In 1548, July 12, the bishop, William Barlow, surrendered for a price twelve

[a] Polydore Vergil's *English History* has been edited by Sir H. Ellis, for the Camden Society, 1846. He defends him as "an historian beyond his age both in his power of discrimination and in his acquirements." See *Archaeologia*, li. 107, for his other writings.

manors of the bishopric,[a] and in 1550 the palace was made over to the Protector, Somerset.

The dean's house was granted to the bishop, and Somerset entered on the possession of the palace for his little day, until his execution on the scaffold in 1552. Another occupant, Sir John Gates, vice-chamberlain of the court, had succeeded Somerset at the palace, also to have a short-lived tenure, and to meet with a like end on the scaffold. On Mary's accession the palace once more reverted to the bishop, and later on, in Elizabeth's time, the deanery was restored to the dean, William Turner.

At the close of the century the charter of Elizabeth, of November 25, 1592, to the dean and chapter of Wells, attempted to give settlement after the late upheaval and changes of property by confirming all existing dignities and prebends in their temporalities. At that time five of the former dignities had been suppressed; there had disappeared from their stalls in choir and chapter, the abbots of the suppressed houses at Cleeve, Muchelney, and Athelney, the provost of Wells, and the succentor. The prebends of Wedmore Prima, and Biddisham, the estates of the provost, viz. the fifteen Combes, and of the succentor, had been absorbed in the deanship, and the dean henceforth sat in the stall of Currie, annexed to the dignity instead of Wedmore. The staff of the church now consisted of forty-nine prebendaries, of whom seven held office as dignitaries, and the dean, now no longer the elect of the canons, but appointed by the crown.

By a new arrangement the eight dignitaries and three canons, eleven in number altogether, who were then actually in residence, were constituted the executive and governing body of the whole chapter during their life, under the title of canons residentiary; the number was to be limited to eight on their decease, and the dean and canons residentiary, a council of eight, were henceforth to form the governing chapter, under the title of "the dean and chapter."

At the same time, the vicars choral, who during the period of unsettlement had been moving for independence, and seeking "to incorporate themselves into a particular bodie, and to sever themselves from the bodie of the dean and chapter," also received a royal charter which confirmed them in their separate endowments and temporalities, and provided for the due continuance of stall wages from prebends "according to custom." The number of the vicars, who

[a] "Indenture between the bishop and the High and Mighty Prince Edward, Duke of Somerset, July 12, 2 Edward VI., 1548, confirmed by the chapter, January 10, 1548-9." Ledger E. f. 21.

had been thirty in 1536, was now reduced to twenty as the greatest number, fourteen as the least.[a]

Among these, the vicars of the abbots of the suppressed houses of Cleeve, Muchelney, and Athelney still held their places in choir, and continued to receive stall wages.[b]

In the troubles of the seventeenth century the church of Wells was brought under the harrows of Puritan tyranny. The choir was closed, the chapter-house put up for sale at the price of £160; all services were forbidden, except the "prophesying" of Cornelius Burges, who ruled from the deanery as minister of "the late cathedral." But if the choir was disused it does not appear that the stalls were destroyed.

When the Restoration came, Dean Creyghton, in 1664, could put out an appeal to the holders of the fifty prebendal stalls to join in the repair of their separate stalls at their own expense.

An act of the Dean and Chapter, dated 6 July, 1664, recites that "the cathedral church brought to ruin in the late civil troubles had been restored by the resident canons almost from its foundations, at an expense far beyond the means of the chapter, and now they desire and ordain that the non-residentiary canons who have not contributed (*ne quadrantem quidem*) towards the repairs of the fabric should at least restore and beautify their own stalls at their own expense, for the glory and honour of the church, for their own comfort and dignity, for an example to posterity." A list of prebendaries holding the fifty stalls follows, with marginal notes in a later hand marking a few donations of £2 2*s*., each in answer to the appeal. Residentiary chapters have in late times been called hard names, "a selfish oligarchy," "*ignavum pecus*," "*fruges consumere nati*." At least the residentiaries at Wells in 1664, as in 1337, were not unmindful of the duties and responsibilities of their heritage. They could honestly say they had borne the burden and heat of the day, and could fairly appeal to their non-resident brethren to take their share in the recovery of their church.

Some visible records still exist of the liberal expenditure of the dean and canons of the Restoration time. The glass in the west window of the church and the

[a] In later times the number was allowed to drop to eleven, until 1875, when the number was increased to fourteen.

[b] To this day the two senior vicars receive from the Dean and Chapter stall wages on the stalls of Cleeve, which was the stall of the abbot of Norman Bec, and of Sutton, formerly the stall of the abbot of Athelney, King Alfred's foundation. The impropriator of the stall of Ilminster appears to have disregarded his obligation. In 1592 that payment had been in arrears for twenty-five years, and the debt to the vicar amounted, at £4 a year, to £104.

great brazen lectern were the gifts of dean Creyghton, afterwards bishop, 1670. A new organ was given by him, which was in use for near 200 years, and the hangings[a] to cover the bareness of the east-end wall, still to be seen in old prints of the church. He bore his part also in the restoration and furnishing of the library by the gift of £300 and many valuable books. Dr. Busby, the treasurer at this time, better known as the great head master of Westminster school, was also the giver of more than £300 in money towards the bookcases and present furniture of the library, besides many valuable books, which, he says, he contributed as a self-imposed fine for his non-residence during his duties at Westminster. To him also the church owes the large silver-gilt alms-dish in which the offerings at the altar are received in present use.[b]

Scarcely twenty years had passed after the restoration of the church when the mob of Monmouth's rustic followers invaded and damaged the church. A record is preserved in the chapter accounts of 1 July, 1685, of this storm which swept over the town and the church for a few days. On that day, Chancellor Holt, one of the chapter, contemporary with the Restoration, held the quarterly chapter meeting alone in the chapter-house with the notary, while the mob were in possession of the church and town. He sorrowfully protests against the desecration of the church by the rebellious fanatics, who, that very morning (*manu hodierno*), were in the act of destroying the furniture, breaking up the organ, and had made the house of God the stabling for their horses. Then he adjourns the chapter and all affairs until that day four weeks, "between the hours of 9 and

[a] Arras hangings for the choir, which Leland saw in 1540, had been given by archdeacon Polydore Vergil, "with his armes in the clothes hanging over the Stalles in the Quier: and the words Hæc Polydori sunt munera Vergilii."

[b] In justice to the men of that time laymen as well as the canons these extracts from the fabric rolls of the years of Restoration, 1663—1665, will show their forwardness in the work.

No. 10. "Compotus magistri Thome Holt custodis fabrice" 1663—1664.

Pro Organo Domino Episcopo vendito. £50.

Among the "Dona et perquisita":

De dono Johannis Coventry Balnei militis ad organum. £20.

De dono Willelmi Portman militis et Baronetti ad organum. £20.

De ffrancisco Pawlet Armigero pro Decoratione unius stalli in dicta ecclesia. 02 · 02 · 00.

De Johanne Hall Armigero pro decoratione unius stalli in dicta ecclesia. 02 · 02 · 00.

De Doctore Byam prebendario de Compton Dondon pro decoratione stalli ejus in dicta Ecclesia. 02 · 02 · 00.

Similar sums were also paid by 5 other prebendaries.

Among the necessary expenses:

Thome Wilcox pro le old organ. 002 · 10 · 00.

12 a.m.," hoping that within that time the wickedness of the rebellion will be crushed.

Nor was that hope disappointed. The next words of the chapter acts record that within six days, on July 6th, the rout at Westonzoyland in Sedgmoor had put an end to the rebellion, and an outburst of thankfulness follows:

"Deus, Deus nobis hæc otia fecit."

We have traced the history of the prebendal stalls, their order and arrangement from the fourteenth century through the changes and mischances of the sixteenth and seventeenth centuries. During that time, as afterwards through the calm, if not torpor, of cathedral life, the order and arrangement in the ground plan of the choir remained the same until the last generation.

What was the form and fashion of the material fabric of the stalls as they stood up in their ranks, the fit and stately furniture of each side of the choir?

We have no picture or visible record of what they were like in their first and unmutilated condition. The stalls in the church of Winchester are said to be almost contemporary work of the date of 1290, and of one generation earlier than our stalls of 1325.

If our stalls matched the excellent work at Winchester, the rich and elaborate carving of lofty canopied stalls of black oak, then we have indeed cause for sorrowful indignation at the degradation which they suffered in the seventeenth century, when rude hands with axes and hammers broke down the carved wood of the canopies, to plant upon the truncated stalls the flooring of galleries and pews.

For, in the sixteenth and seventeenth centuries, when all the services of the church were concentrated in the choir, the nave cut off by the heavy stone screen, and the congregation gathered round the pulpit to hear rather than to worship,

Roberto Taunton ad Organum diversis temporibus prout patet per separales acquiettancias. 217 · 00 · 00.

Johanni Campian pro decoracione chori prout patet per separales acquiettancias suas 106 · 00 · 00.

Johanni Lewes pro Cancellis ad altare prout per acquiettancias patet. 023 · 04 · 05.

Roberti Hill et Tristano Towse pro pulvinis et cooperimentis pluteorum Canonicorum in Choro Ecclesie. 014 · 05 · 06.

No. 11. "Compotus magistri Thome Holt custodis Fabrice" 1664—1665.

De magistro Willelmo Bisse prebendary de Henstridge pro decoracione stalli in Choro Ecclesie. 02 · 02 · 00.

Solut' Roberti Baily pro emendacione horologii. 01 · 15 · 00.

„ Roberto Taunton ad Organum. 07 · 00 · 00.

„ fflagellatori canum. 00 · 10 · 00.

seats were erected in all vacant spaces in the confined space with little regard to ecclesiastical order or architectural beauty. Carpenters made rude havoc of carved work and delicate tracery.



Fig. 1. Fragment of a Bench-end from the choir-stalls in the cathedral church of Wells. (½ linear.)

The minutes of chapter acts between 1590 and 1690 enable us to trace the gradual invasion and occupation of the choir by seats and boxes, and the revolution which had taken place in the ordering of church services. When seats were ordered to be made in the choir "for the master and burgesses of the city," "for the bishop's, dean's, and canons' wifes," "for all persons of quality," the area in the floor of the church was not sufficient for each to have their proper

amount of space with due distinction and separation. Consequently new seats must be erected over the stalls in the galleries for the families of "quality."

"Wives and daughters of gentlemen or clergymen in y^e^ liberty, and not foreigners," are to sit in the stalls.

In 1681 a seat is provided for the dean's lady (Bathurst is dean in bishop Ken's episcopate) "in the grates," that is probably the pew within the iron railing of bishop Beckington's chantry chapel on the south side of the presbytery, and for great ladies, Mrs. Baylie at one time, Mrs. Poulet at another when bishop Kidder was bishop, "in the gallery over the bishop's seat." So in these times the canopies of the old stalls were ruthlessly truncated in order that a gallery might be built upon them on either side of the choir, with a frontage of panelled and painted wood-work, and approached by stairs behind from the aisles. The lower row of seats below the prebendal stalls was divided into enclosed pews, except where the vicars-choral and the choristers stood.

Henceforth for several generations on the south side of the presbytery a curtained pew occupied the interior of bishop Beckington's chantry chapel, enclosed within "the grates" of fifteenth-century ironwork, and the stone canopy work over the chantry altar of old time which the bishop had consecrated at his grave, now covered the privileged seats of the ladies of the chapter;[a] but it was reserved for the restorers of this ninteenth century to thrust aside that historic monument, unique in the church as a specimen of combined richness of carving and colouring, in order to obtain a few more feet for the "free seats" which now crowd the presbytery. Other privileged persons sat in pews on the northern side of the presbytery. At that time the monument of bishop Still was raised on the south side of the altar in the place of the sedilia. Bishop Berkeley's monument more ambitiously took the north side of the sanctuary. The hangings with which bishop Creyghton had covered the bare face of the eastern wall remained there in the memory of those still living.

Such was the condition of the choir as it is described in engravings and pictures of the last century, until the modern reconstruction of the choir and presbytery between the years 1848 and 1854. Mutilated as were the oaken stalls and reft of their canopies, the old seats of the prebends still remained each in their place, with their misericords underneath, the slender dividing shafts between

[a] Extracts from Chapter Minutes illustrate the differences, political as well as social, in these ordering of seats:

In 1590, April 1. Seats in y^e^ Quire to be made for y^e^ Canons wives and proper to them, and none other.

1595. "The new seats in the Quire to be removed."

In 1618, Oct. 15, there is a notice in the Corporation records, "that the seats which are to be

each supporting the carved hoods of each stall, all being the workmanship of the men of dean Godelee and Bishop Ralph.

This was the appearance of the stall work on the north and south sides of the choir, as seen and drawn in 1848, before the destruction took place.

Some fragments of the panel work of the upper galleries are preserved in the chapter library.

But in the middle years of this century a reconstruction of the choir was made, with a zeal not according to later knowledge, and innovations both in the ancient order and in the material and designs of the stalls, were introduced.

On the next page is a copy of the ground plan and arrangement of the stalls in choir, as made in dean Jenkyns's handwriting in 1846, corresponding with the old order as it had come down from the fourteenth century.

In the changes made in 1848, the wooden stall-work was removed altogether, both the upper galleries and the old and mutilated stalls; the stalls were thrown back between the columns in order to give more width to the choir and to display the columns to their bases. Stalls of stone, with elaborately carved canopies of excellent workmanship, were built into the structure, but, beautiful as they are, some will feel the loss of wood as the more appropriate material for the furniture of the building, and of the oaken stalls of early design and historic interest. The seats of the prebendal stalls were preserved, but they were removed from their place in the upper row and were transferred to the lower row, and adapted by rude hands to places for which they were not originally constructed.

The loss is not only artistic but practical. The continuous line of the stalls has been broken. There are now only forty stalls instead of fifty. Ten prebends are without stalls, or, by a clumsy and inconvenient arrangement, the same stall is assigned to two prebends, and the prebendaries are left to dispute on the priority

built in the Quier of St. Andrew's Church for the use of the Masters wives shall be made at the charge of the Committee."

1619. "It is ordered and concluded (also by the Corporation) that the Clerks of St. Andrew shall have xiii s. xiii d. yearly paid unto them by the Receiver in respect of their attendance upon the Mayor and Masters in providing their seates cleane, and formes for the other xxiiii, and to provide the Magistrates seates in the saide churche." This is met by a minute of Chapter.

1624, 19 Nov. "No seats in the Cathedral to be altered without y^e^ leave of the Dean and Chapter."

In 1633, 18 Sept. "New Seats erected over y^e^ Stalls for y^e^ Bishop's, dean's, and canons wifes."

1635, 1 April. "The seats in y^e^ Nave of the Church removed by my Lord of Canth^r^ order," Laud's measure to "quench prophesyings." The Puritan retort follows in 1640, "the doors of y^e^ 2 galleries in the Quire to be nailed up," as if in preparation for closing the Quire, and setting up again preaching in the nave.

ORDER OF STALLS IN CHOIR, 1846.



Ordinatio Clericorum in Choro.

of their claims, or to follow the famous precedent, which Mr. Freeman was never tired of quoting, of the two archbishops claiming the same stall, when Roger of York sat himself down in the lap of Richard of Canterbury, and was furiously ejected by the men of Canterbury.[a]

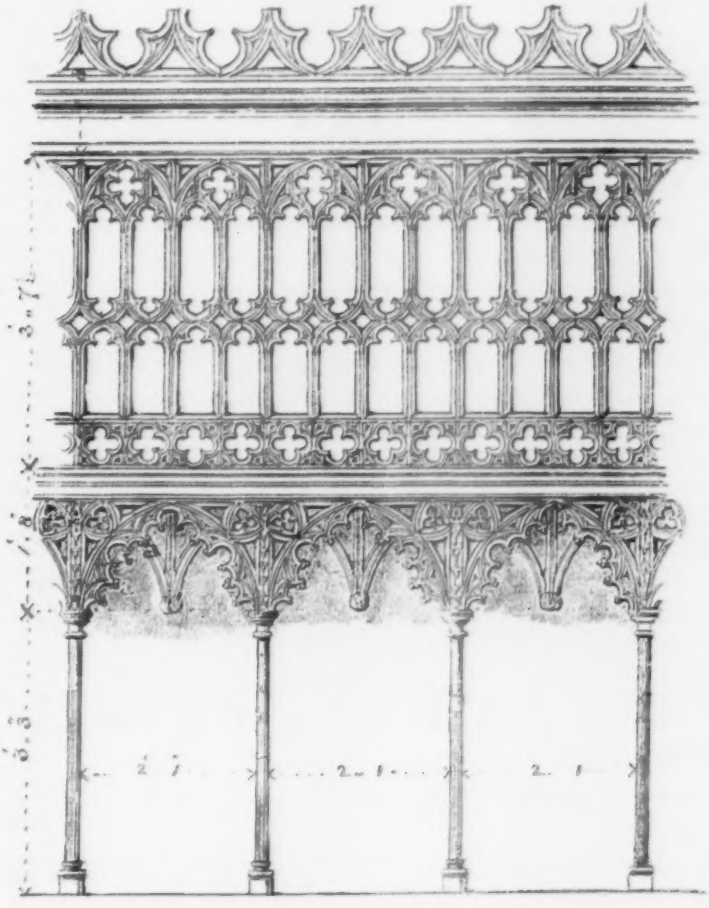


Fig. 2. Stall Canopies and Panelling of the upper galleries formerly in the choir of Wells cathedral church. From a drawing by Mr. F. Dollman made in 1848.

No attempt at re-arrangement of the stalls in the chapter-house was made in the changes of 1848. Brass plates, with the name of the several dignities and prebends, were put up on the stalls by Dean Plumptre in 1883, but the same order was followed by him which he found existing in the choir. As has been shown in this paper, another order ought to be followed in the arrangement of the stalls in chapter-house.

[a] Freeman, *Cathedral Church of Wells*, p. 189.

If nothing can now be done to remedy the change of order in choir, at least the tablets on the stalls in chapter-house may be re-arranged, and the Psalms belonging to each prebend might also be recorded over each stall. This addition would add to the ornament and dignity and interest of each prebendal stall; it would be a help to the remembrance of the spiritual brotherhood existing among the members of the chapter, and it would be a constant mark of the continuity in the history of the chapter from the time of the earliest statutes and the days of bishop Robert to the present.

It is a matter of no small satisfaction that, while the beautiful stall-work of the choir has perished out of the cathedral church, so many of the seats have been preserved, containing excellent and varied carved work in the misericords on their under sides. Their obscurity during later centuries of disuse has preserved them from injury, and in some cases they are as fresh as when struck off by the hands of the carvers. Their present obscurity is a reason for more special description in our account of the prebendal stalls. Sixty-four seats remain, of which fifty belonged to the prebendal stalls in the upper row; all have been deposed from their original and proper position in the upper row, where seats of new woodwork have been inserted between the stonework of the stalls, and the misericords are now only to be found under the seats of the second and third rows; ten are all that remain of a larger number, probably thirty, which were ranged in the lower row, for younger vicars and boys on the foundation; four misericords belonging to stalls suppressed by the later innovations of 1848 are exhibited as specimens in the library of the Chapter.

If Wells has to deplore the loss of such canopied stall work as Winchester can boast, the misericords, which alone remain to us, rival and even exceed in richness and variety of design and depth of carving those on the seats of Winchester.

Twenty-two are carvings of the forms of men, women, angels; natural or grotesque.

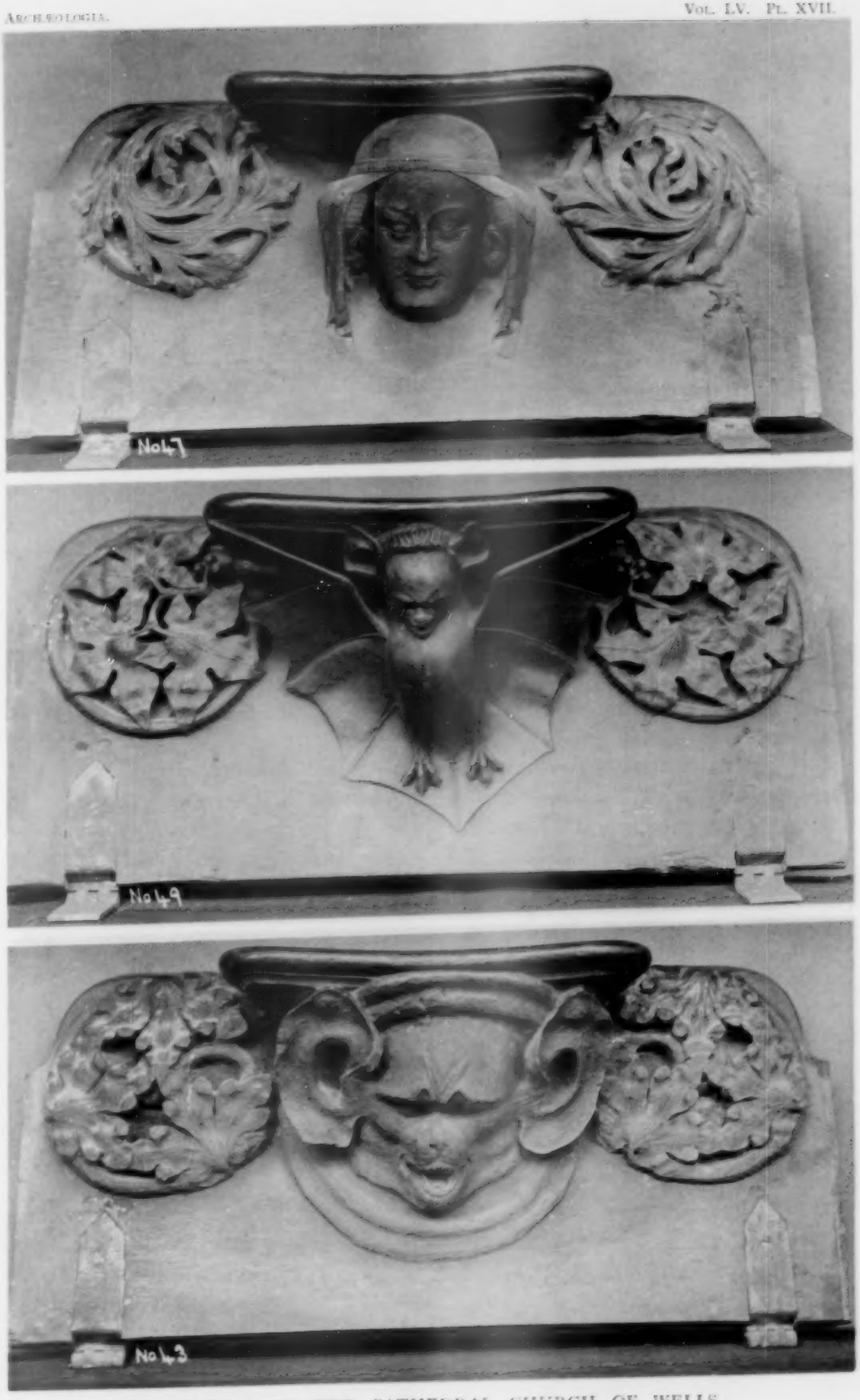
Forty-two are carvings of birds and beasts; natural, conventional, monstrous, or grotesque.

The seats having been torn from their original position and forced in some cases by rude cutting into spaces in the lower tier of seats which do not belong to them, there is no authority for any fancy or theory as to the appropriateness of the carving to any particular stall of prebend. The clue is now lost of their original arrangement. An account of their present position would only be interesting as a guide to those who wished to examine them on the spot.

They were taken by the photographer in the following order, and are so numbered:



MISERICORDS IN THE CATHEDRAL CHURCH OF WELLS.



MISERICORDS IN THE CATHEDRAL CHURCH OF WELLS.

1—15. Seats on the south side, 1st row, beginning with the return seats.
15—29. Do. do. 2nd row.
29—44. Seats on the north side, 1st row.
44—60. Do. do. 2nd row.
61—64. Seats detached, and at present in the Chapter library.

The following is a general description of the subjects of the carvings, for which I am indebted to Mr. W. H. St. John Hope:

No. 1, a goat (broken); 2, a griffin fighting with a lion (?); 3, a man in hood and drawers riding with his face to the tail on a barebacked horse; 4, a hawk preying on a rabbit; 5, a mermaid (unfinished) (Plate XVIII.); 6, two popinjays in a fruit tree; 7, an ape carrying a basket of fruit on his back (broken) (Plate XIX.); 8, a double-bodied monster; 9, a dog-headed griffin; 10, two goats butting (unfinished); 11, a monkey holding an owl (unfinished); 12, two dragons interlocked and biting each other's tail; 13, an ewe suckling a lamb (unfinished); 14, a wyvern and a horse fighting; 15, a mermaid suckling a lion; 16, a man holding a cup ? (broken) sitting on the ground and disputing with another man holding a pouch (Plate XVI.); 17, a cat preying on a mouse (unfinished); 18, a monster with bat's wings (Plate XVIII.); 19, a griffin devouring a lamb (Plate XVIII.); 20, a puppy biting a cat (unfinished); 21, a man in a contorted position upholding the seat; 22, a serious-looking dog; 23, a cat playing a fiddle; 24, a man seated on the ground and thrusting a dagger through the head of a dragon with feathered wings; 25, bust of a bishop in amice, chasuble, and mitre (unfinished); 26, a peacock in his pride; 27, a fox preaching to four geese, one of which has fallen asleep (broken); 28, a cock crowing (Plate XIX.); 29, a lion dormant; 30, a dragon with expanded wings, asleep; 31, a man with his left eye closed, wearing a cloak and squatting on the ground with his hands on his knees; 32, a fox running off with a goose in his mouth; 33, head of a man with donkey's ears; 34, two monsters with male and female human heads, caressing (unfinished); 35, a man on his back upholding the seat with his right hand and right foot; 36, a lion with the ears of an ass; 37, a hawk scratching its head; 38, a sleeping cat (unfinished); 39, a woman with dishevelled hair and agonised expression crouching on the ground with the right hand on her shoulder, the other extended; 40, a dragon with hairy belly biting his back; 41, two ducks addorsed, one with his beak open; 42, two dragons fighting (unfinished); 43, a bat's head (unfinished) (Plate XVII.); 44, head of a man with bushy hair and beard, with a lion's leg growing out of each side; 45, a man in tunic and hood lying on his side and clasping his hands; 46, a man in a girded tunic, with his head downwards, upholding the seat with his back and left hand; 47, head of a lady with hair in a caul on each side, covered with a veil confined by an ornate fillet (Plate XVII.);

48, a gentle-looking lion; 49, a bat displayed (Plate XVII.); 50, head of an angel with amice round neck and expanded wings; 51, a lion; 52, two doves about to drink from a ewer standing in a basin (unfinished); 53, a squirrel with a collar round his neck trying to escape from a monkey who holds him by a cord; 54, a wood pigeon feeding; 55, a man riding on a lion, to whose buttocks he is applying a whip; 56, a boar and a cat with cloven feet walking in opposite directions; 57, an eagle displayed (unfinished); 58, head and shoulders of a man who upholds the seat with his hands; 59, a rabbit regardant; 60, a two-legged beast regarding its tail, which is formed of three oak leaves on one stem; 61, a man in hood and loose tunic kneeling on the ground and thrusting a spear down the throat of a dragon (Plate XVI.); 62, a boy in gown with long wavy hair, lying on his side and drawing a thorn out of his left foot (of coarse late seventeenth century work); 63, a dove or pigeon feeding her young (Plate XIX.); 64, a sorrowful-looking king sitting crosslegged on a cushion between two rampant griffins, who are secured by straps buckled round their necks (Plate XVI.).

In every case the subject is flanked by two bosses of leafwork, which are carved with extraordinary skill and with great truthfulness to nature. They represent the oak, the maple, the vine, the marsh-mallow, the wild rose, the ivy, the beech, and other well-known trees and plants, but in a few cases the foliage is purely conventional and even of thirteenth century type.

Such are the subjects of the carving under the seats of the old stalls, the so-called "misericords," because when turned up they were designed to give some rest or indulgence (*misericordia*) from the standing or kneeling posture to the weary at the long offices.

Sole survivals in the church of the woodwork furniture of the fourteenth century are these seats, for which each canon, in Dean Godelee's time, if he did not carve his own seat, contributed thirty *solidi*, or in Dean Creyghton's time probably forty-two shillings. When no longer used they have been preserved by their obscurity in times of pillage, and they remain as memorials of those early times, and of another phase of religious life, when long offices by night, and at early hours, and throughout the day, and watchings oft, and fixed times of duty and discipline were the understood conditions to all who entered "religion," as well in secular as in monastic foundations.

The carvings, which vie with those at Winchester, combine with the early and almost Romanesque capitals in the nave, and the solemn sculptures and imagery on the west front, to complete a continuous series of medieval sculpture peculiar to the church of Wells, in their mixture of grim humour and playfulness with loving study of simple and natural objects.







MISERICORDS IN THE CATHEDRAL CHURCH OF WELLS.







MISERICORDS IN THE CATHEDRAL CHURCH OF WELLS.

XVI.—*The Mausoleum at Halicarnassus. The probable arrangement and signification of its principal Sculptures.* *By* EDMUND OLDFIELD, *Esq., M.A., F.S.A.*

I. Read 26th November, 1896.

IN the paper on the Mausoleum which I read before the Society on 14th June, 1893, and which has since been published in *Archaeologia*, I stated my intention to investigate two distinct questions relating to that celebrated building:

I. What appeared from the best literary and monumental evidence to have been its architectural form?

II. What was the most probable arrangement of its principal sculptures?

The first of these questions I have sufficiently dealt with in the paper referred to, subject to one correction, which I ask leave now to submit. Since the appearance of my scheme in *Archaeologia*, I have been led to adopt a slight modification of the architectural arrangement there suggested for the interior of the Pteron.[a] In that arrangement the central area was supposed to be surrounded by eight massive piers, four of them square and four oblong, intended to support the principal weight of the pyramidal roof. In proposing such an arrangement I was always conscious that the view through the Pteron would be partially obstructed, and the light within the inner area diminished, by piers of this bulk, whilst the idea of a building "hanging in empty air" would be less fully and satisfactorily realised than I could have wished. Nevertheless, when I considered the exceptional weight of the superstructure, and the novelty of the scheme I was proposing for its support, it seemed to me more prudent to sacrifice both some architectural attractiveness and some confirmation of my theory from the more complete illustration of Martial's words, than to run the risk, as a mere amateur, of producing a design which professional critics might pronounce unworkable or unsafe. Since the publication of my paper, however, I have received from high

[a] *Archaeologia*, liv. pl. xxii.

architectural authorities such assurances on the score of structural stability that I have now modified my design by substituting a scheme I should have preferred from the first, had I only felt satisfied as to its practicability. In this scheme there are only four square piers, one at each angle of the central area, whilst at each of its ends and sides is a double row of pilasters connected by intermediate stays, as shown in the accompanying plan (fig. 1). With such an arrangement anyone looking from outside would have seen on each face of the Pteron only two intercolumns blocked behind by solid piers, whilst all the others would have offered vistas of columns and pilasters extending uninterruptedly to the sky beyond.[a] With this explanation, which properly relates only to the first or

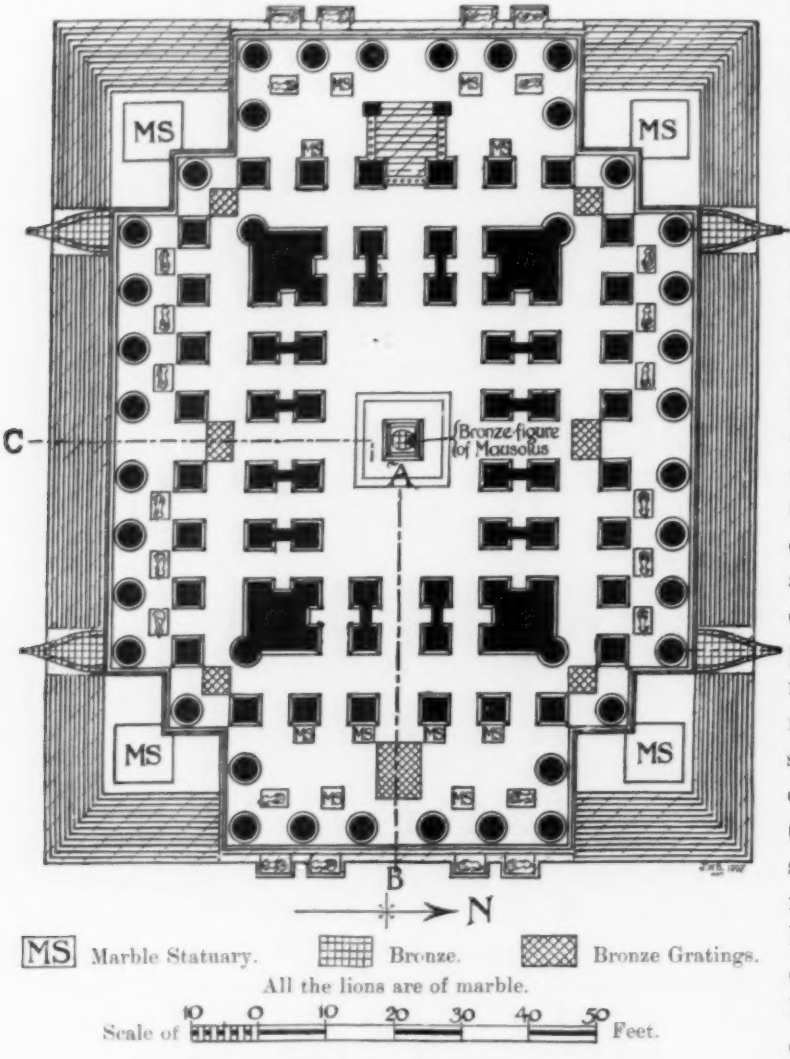


Fig. 1. The Mausoleum at Halicarnassus. Plan of the Pteron.

[a] This modification of my original scheme I made known in the *Builder* of 7 March, 1896, p. 214.

architectural question in my investigation, I now proceed to examine the second or sculptural question as a sequel to the other.

Nearly forty years ago it fell to my lot, as an Assistant in the then undivided Department of Antiquities in the British Museum, to superintend the unpacking, repairing, and provisional arrangement of the marbles which were being collected by the expedition under the direction of the late Sir Charles (then Mr. Vice-Consul) Newton from Greek sites on the coast of Asia Minor. It was then part of my duty to devise means, with the approval of Mr. Hawkins, the respected Keeper of the Department, for accommodating the relics of the great Halicarnassian monument, and exhibiting them in some temporary manner till suitable provision could be made by the Trustees for their final arrangement in the public galleries. It thus naturally occurred to me to consider what proportion, or what approach to any calculable proportion, the specimens of decorative sculpture and enriched architecture thus acquired might probably have borne to the entirety of similar work in the monument when perfect. This led me to observe a distinction between remains belonging to groups or series, whose original extent might be approximately estimated either from the description of Pliny or from indications of structural requirements in the building itself, and remains which were independent both of the architectural composition and of each other, and therefore incapable, in the present state of our knowledge, of any estimate as to number or bulk. To the former class it was obvious to refer the preserved portions of columns. Putting aside the few drums of shafts and fragments of bases, on which it would be practically impossible to found any calculation, we find three distinct capitals in the collection, one of them belonging to an angle column. Now, Pliny tells us that the Mausoleum, by which he here means, as shown in my former paper, the Pteron only, was surrounded by thirty-six columns. The proportion, therefore, of preserved to lost members of the series of columnar capitals is as one to twelve.

Secondly, I take the Amazon frieze, which, in common with others, I accept as the frieze of the principal Order. Of this there remain seventeen slabs, extending in all to 85 feet 9 inches in length. Pliny says that the entire circuit of the building, meaning, as before, of the Pteron, was 411, or, according to one MS., 440 feet. But this measurement would naturally have been taken round an accessible part, such as the base or stylobate of the Pteron, rather than round its frieze; and the circuit of the latter would therefore have amounted to a somewhat less figure, say, approximately, 400 feet. Thus the preserved portion would be slightly above one-fifth of the whole.

The reason why a larger proportion of the frieze has survived than of the columnar capitals may be easily understood. The former, being composed of practically flat and very thick oblong slabs, was valuable to the Rhodian Knights for courses of wall-facing. Whatever slabs, therefore, they found among the Mausoleum ruins they transported to the castle which they had undertaken to repair; and in the surface of its walls these slabs remained unbroken till Sir Stratford Canning had them removed in 1846. But the capitals, being less adapted for insertion in walls, were probably in most cases broken up for building material, or burnt into lime, as we know from De la Tourette's account was done with the remains of the subterranean chamber described in my former paper.

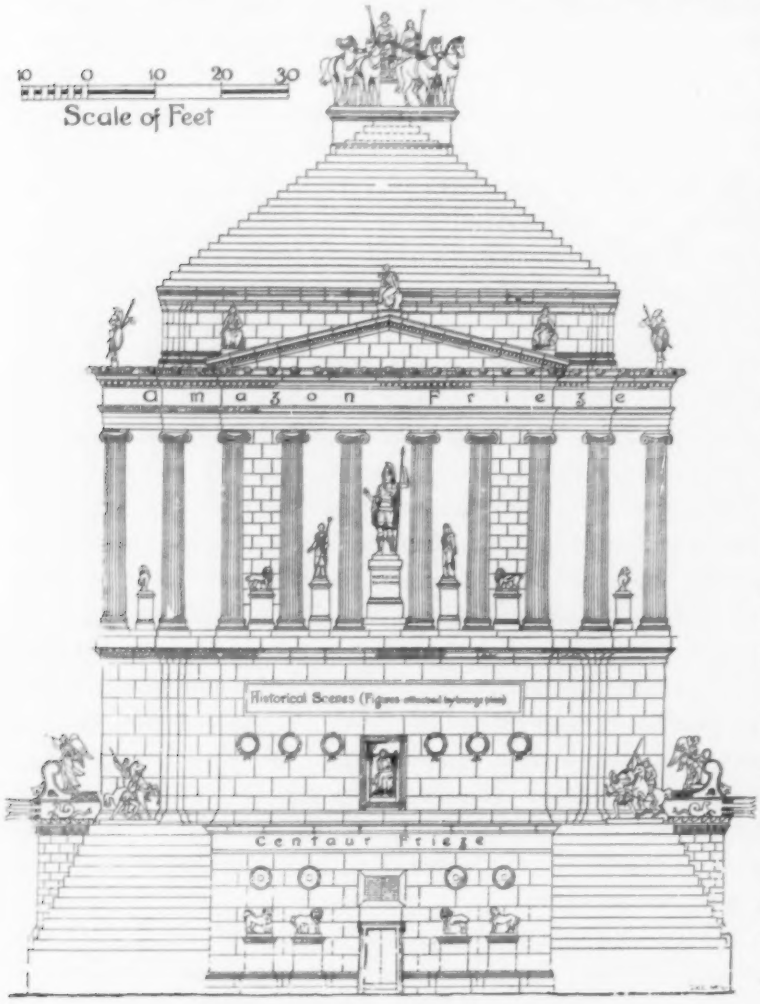


Fig. 2. The Mausoleum at Halicarnassus. Restoration of the East Front.

Next, we have some portions of a frieze representing a Centauromachia. It may perhaps at first be asked whether this could not have belonged to the same architectural course as the Amazonomachia, if the two compositions were sculptured in competition by different artists, and arranged on different sides of the

building. Such a supposition, however, is sufficiently disposed of by the discrepancies both of dimension and form in the constituent slabs. The height of the Amazon frieze is 2 feet 11½ inches in all, the sunk face or die being 2 feet 5½ inches; whilst the height of the Centaur frieze is 1 inch less, both in the

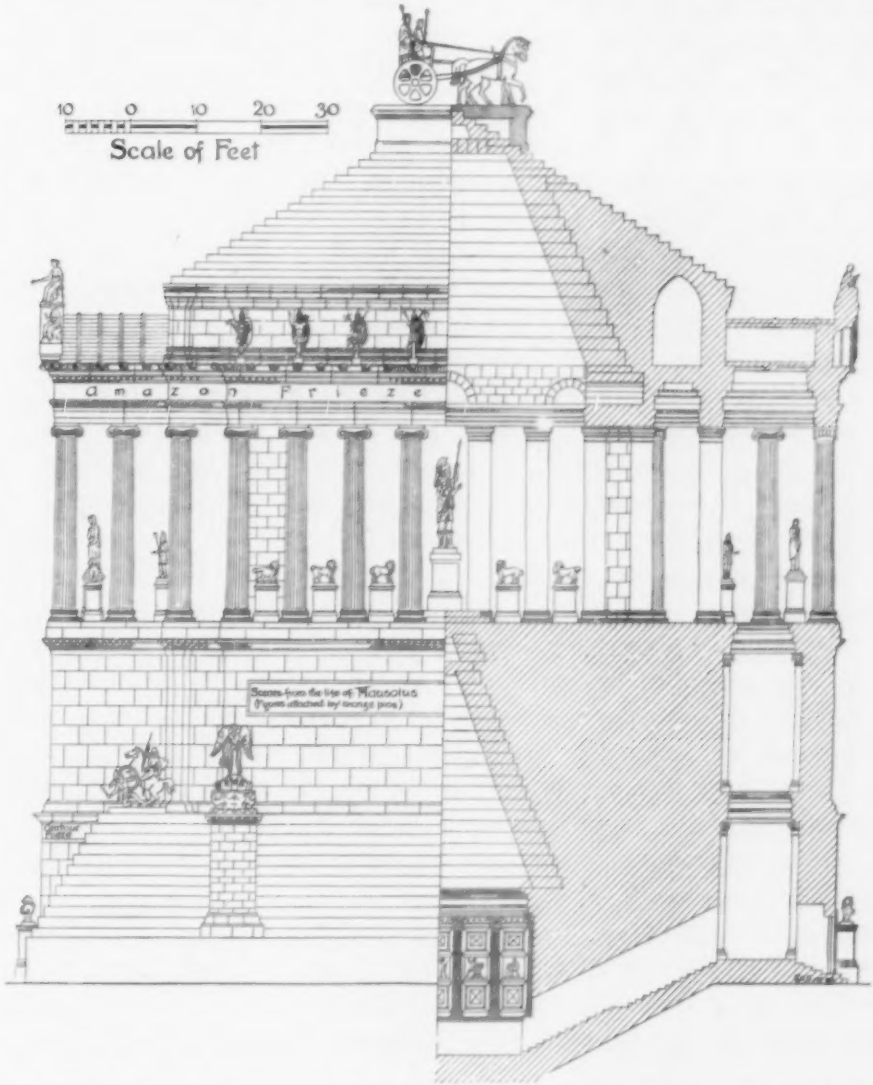


Fig. 3. The Mausoleum at Halicarnassus. Elevation of half the south side and half longitudinal section of the interior on the line A . . . B of the plan (fig 1).

aggregate and in the die. At the foot of the latter frieze also is a peculiar and distinctive square moulding, not to be found in the former frieze, nor indeed

anywhere else in the Mausoleum. The inference, therefore, is that the two friezes must have been in positions unconnected with each other. This inference is confirmed by the difference in the present condition of the two series. The figures in the Centaur frieze are much more mutilated, and the surface also more eroded by water, than in the Amazon frieze; indicating that the former was originally in a position more exposed both to violence and atmospheric injury than the latter. The remains of the Centaur frieze comprise now only one slab and three fragments of other slabs, whose aggregate length, if all joined together, would be about 11 feet. In considering, however, the proportion this would probably have borne to the entire composition, it must be remembered that no portion of this frieze had the advantage, like so much of the Amazon frieze, of being transferred to the castle walls, but the whole was left to the same chances of violence and spoliation as the other sculptures found in the ruined building. Consequently, the proportion of the preserved to the lost parts would probably have been much smaller than in the Amazon frieze. Let us place it conjecturally at one-twelfth, and the entire frieze would then have extended to about 132 feet.

In my restoration of the building I have assigned to this frieze a position which, though only conjectural, is in conformity with the conditions here described, both as to its extent and its preservation. The part which I would call the sub-podium, that is, the wall supporting the podium under each portico, which forms an intercepting block in the middle of the graduated basement at the east and west ends, is shown in my design[a] (fig. 2) to be surmounted by a frieze. This I have made the place of the Centauromachia. The length of each sub-podium is 51 feet; its projection beyond the top of the gradines of the adjoining basement about 8 feet.[b] Supposing these friezes to be returned along the sides of the sub-podium till they are met by the highest gradines, each frieze would extend to $51+2\ (8)=67$ linear feet, a little more at the top, and a little less at the bottom; and the entirety of the two friezes would be about 134 feet. This figure would amply accord with the proportion above suggested between the preserved and the lost portions of the whole.

Equally also would the present condition of the frieze accord with such a position. At only about 20 feet from the ground it would have been more exposed to injury from below than the frieze of the Order, which was 60 or 70 feet higher up. At the same time, the shallow moulding which I have placed

[a] See fig. 2; cf. *Archaeologia*, liv. pl. xxv.

[b] The projecting portion is shown in fig. 3, and in vol. liv. pl. xxiii. (Half elevation of south side.)

immediately over this lower frieze, and no bolder one seems to me proper in such a situation, would give but imperfect protection from injury of any kind from above, as compared with the more massive cornice which overhangs the principal or Amazon frieze. When, therefore, the upper part of the Mausoleum was overthrown by an earthquake, the projecting reliefs of the lower frieze would naturally have been struck by some of the falling stones. Even before this catastrophe the rain-water trickling down from the podium immediately above would find its way to the frieze, and this would account for the erosion of surface now observable in the slabs of the Centauromachia series.

Such, I believe, were the original positions of the only two friezes from the outer faces of the Mausoleum of which we have any remains. Why, however, it may be asked, should the Amazonomachia and Centauromachia have been selected as subjects for representation in these positions? The answer would not be difficult, even if we looked solely to artistic reasons. We know from Vitruvius and Pliny that the sculptural decoration of the building was undertaken by four artists *certatim*, or in competition with each other. Subjects would therefore naturally be chosen which would test to advantage the technical abilities of the competitors. Energetic action, and, so far as the reserve in the representation of the female form which had not yet quite left Greek art would allow, nude or semi-nude figures, would prove their skill in design and modelling. Moreover, the principal frieze being 80 or 90 feet above the ground, it was necessary, if the spectator was to judge properly either of the motives of the artists or the execution of their work, that the subject should be one with which he was well acquainted, and should be treated very distinctly, as by a somewhat open arrangement of the figures, with strongly defined attitudes and dramatic grouping, relieved by clear backgrounds. These conditions were easily fulfilled with such a theme as the Amazonomachia. At the same time, the fury of the legendary battle would give ample opportunity for exhibiting the muscular anatomy of the male and the more gracefully rounded outlines of the female form in immediate contrast with each other. The Centauromachia had similar recommendations. The subject was equally familiar to the Greek spectator, and the contrast of forms equally forcible, though shown not in the sexes, but in the species of the combatants.

But beyond and above these æsthetic motives was included, what Greek intelligence here, as elsewhere, knew well how to combine with them, a religious or historical motive. On this point Sir Charles Newton, notwithstanding his careful and judicious criticism on the mere artistic character of the friezes, seems not to have shewn his usual discernment. He confesses himself unable to see

why the Amazonomachia should have been thought appropriate for representation on the Mausoleum,[a] or why, on this, as well as some other monuments, the Centauromachia should have been associated with it.[b] Yet, surely, the reasons are to be found in authors referred to in his own pages. Strabo informs us that Halicarnassus was believed to have been founded by emigrants from Trœzen,[c] led by Anthas or Anthes, son of Poseidon, and king of Trœzen. Pausanias confirms this myth by varying its form, attributing the foundation of the town to the descendants of Aetion, the son of Anthas.[d] Vitruvius, though he refers the settlement to Melas and Areuanias, heroes of a later date, yet brings the emigrants from Trœzen as well as from Argos.[e] So generally accepted was this traditional origin of the colony, that the Halicarnassians applied to themselves the eponym of Antheadæ. Now every Hellenic colony preserved a traditional respect for the legends of its ancestral home. Among the myths, therefore, which the Halicarnassians would naturally regard with greatest interest were those of Theseus, a native of Trœzen, and a grandson of its king, Pittheus. In the Amazon frieze there is a slab,[f] on which a warrior is seen fighting with a club and wearing a lion's skin. This warrior Sir Charles Newton thought to be Heracles, and thence inferred that the scene intended was that of a battle on the River Thermodon, where Heracles slew the Amazon Queen Hippolyte. I, however, believe that this warrior is Theseus, represented as in the Phigaleian frieze, with a lion's skin and club, like Heracles; so that the scene is really meant to be taken from the invasion of Attica by the Amazons under Hippolyte, who came to avenge thus the abduction by Theseus of her sister Antiope. In the single perfect slab from the Centaur frieze the figure of Theseus does not occur; but, doubtless, he was represented on some other slab, fighting among the Lapithæ at the nuptial feast of his friend Pirithöus. It is on account of the connection of Theseus with these two legendary incidents that the subjects of the Amazonomachia and Centauromachia are so constantly combined by artists of the Athenian School, who venerated Theseus as their hero king no less than the Trœzenians did as their fellow-countryman.

[a] Newton, *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ* (London, 1862), ii. 251.

[b] *Ibid.* ii. 252.

[c] *Geographica*, lib. xiv. p. 56; lib. viii. p. 374.

[d] Pausanias, ii. 30, § 8.

[e] Vitruvius, *De Architectura*, lib. ii. 8. Herodotus also, vii. 99, though not noticing any of these myths, describes the Halicarnassians distinctly as Trœzenians.

[f] No. 3 in the official *Guide to the Mausoleum Room*.

The Amazonomachia, however, had a further interest to the people of Caria independently of Trœzen. For the *labrys*, or two-headed battle-axe of Hippolyte, which was taken from her and given to Omphale, queen of Lydia, by Heracles, and was afterwards treasured as a sacred relic by the Lydian monarchs, was carried off from Candaules by the Carians under Arselis, and dedicated at Labranda in the temple of Zeus[a]; whence that deity is represented on the coins of Caria with the *labrys* in his hand.[b]

We may next consider the remains of a series belonging to a different class of representations, not mythological but realistic, the so-called "Chariot frieze." Among these remains there is no perfect slab; nor are there any sufficient means of estimating with any exactness what would have been the aggregate extent of all the slabs, if united continuously. Notwithstanding the violence from which they have at some time suffered, and which has reduced them to little more than a collection of fragmentary groups, it is to be noted that they do not, like the Centaur, and to some extent also the Amazon frieze, betray any marks of injury from weather. They differ also from those friezes in certain peculiarities of their original condition. They are composed of a finer marble; they are only about half as thick as the slabs of the Amazon frieze; "their back," as the official *Guide to the Mausoleum Room* informs us, "is always hammer-dressed, not wrought in alternate courses, like the frieze of the Order; and the joint between the slabs wants the final polish; which fact," continues the *Guide*, "is an additional proof that the frieze was never intended to be exposed to the weather." This concluding inference seems further confirmed by some remains of blue pigment which are, or at least lately were, traceable both on the ground of one of the reliefs, and on the under side of the ogee moulding which runs along the bottom of the frieze, and was decorated with small painted leaves. A certain distinction from the other friezes may also be observed in the artistic style of their sculptures. In the Chariot frieze the relief, whilst not uniformly flattened into something resembling a distinct plane in front of the plane of the background, a system nearly approached in the Panathenaic frieze of the Parthenon, is at the same time not regularly projected into detached or semi-detached forms, as in the Amazonomachia of this building. But an intermediate system is adopted of real *mezzo-relievo*, some of the figures being fully and naturally rounded, whilst others

[a] Plutarch, *Quæstiones Græcæ*, xlv.

[b] Gardner, *Types of Greek Coins*, pl. x. 22. *Cf.* Mionnet, *Description des Medailles Antiques Grecques et Romaines*, iii. 349 (*Halicarnasse*).

are conventionally depressed; and this variation of projection, with its consequent variation in the strength of the lights and shadows, is delicately wrought out into an effect of picturesque gradation, which would hardly have been seen or appreciated except through near inspection, and would certainly have been quite thrown away in such a position as that of the Parthenon frieze, immediately under the ceiling of the peristyle, and lighted only by reflection from below. On these united grounds I should be disposed to assign this series to some place in the interior of the building, and not far removed from the eye. Not indeed a place in the central apartment, or *cella*, for De la Tourette, in describing the sculptural decorations of that room, mentions only *histoires taillées, et toutes battailles à demy relief.* In my arrangement of the basement, however, there is a supposed entrance-hall, about 42 feet long by 14 feet wide,[a] lighted from above by grated openings in the floor of the eastern portico; which openings could easily be enlarged, if necessary, beyond what is represented in my plan of the Pteron.[b] The walls of this hall I would venture to suggest, if my scheme for restoration of the building be accepted, as a site for the sculptures in question; though of course I only offer this as a conjectural allocation, for there is no evidence I know of to determine either the construction or the decoration of any interior part of the basement beyond that which was explored by the Rhodian Knights in 1522.

The subject of the Chariot frieze was doubtless chosen in commemoration of the honours, or part of the honours, paid by Artemisia to her departed husband, which very likely also included, like the games at the obsequies of Patroclus, other agonistic exhibitions besides these races. It is to be observed that the chariots all appear driving from left to right, which is also the direction uniformly represented in vase-paintings of the same subject. The reason of this I take to be that in the hippodrome they were only seen in this way. For the starting-place there being on the right side of the hippodrome's base, and the chariots turning to the left when they reached the *meta*, they had, both in their outgoing and their returning course, the *spina* always on their left, and the spectators on their right; so that they were only visible from the latter side, moving, that is, from left to right, as here represented.[c] The drivers appear at first sight to be

[a] See fig. 3; cf. *Archaeologia*, liv. pl. xxi. (plan), and pl. xxiii. (section).

[b] *Archaeologia*, liv. pl. xxii.; cf. *supra*, fig. 1.

[c] See Visconti's explanation of the hippodrome at Olympia, founded on the description of Pausanias in lib. vi. c. 20, *Museo Pio Clem.* v. 58-267.

women, but are in reality meant for young men in talaric *chitons* or tunics.[a] A similar attire may be seen in the youthful charioteers in the Parthenon frieze, and likewise in the drivers represented in the paintings of chariot-races just now referred to.[b]

The only other sculptured reliefs in the collection are the few remains of figures on four sunk panels, each, as conjecturally restored in the Museum, about 28 inches square. Though all much broken, intentionally or accidentally, their surfaces show no deterioration from exposure to the air; and it was therefore reasonably inferred by Sir Charles Newton that they belonged originally to some interior locality. On all of them are fragments of male or female figures, engaged apparently in contests of different kinds. One scene seems to represent a fallen Amazon, with a figure of uncertain class beside her; another shows the lower part of a group composed like that of Theseus struggling either with the Minotaur or with Sciron, as seen on many painted vases. They are all well fitted, both in size and subject, for decorating the subterranean chamber discovered by the knights, as related by De la Tourette. In that chamber the *entredeux des colonnes*, or wall spaces between the engaged semi-columns which adorned its four sides, are said to have been faced with sculptured groups enclosed within mouldings of polychrome marbles, and all representing, as the knight tells us in the words lately quoted, scenes of battle, which he and his comrades deliberately broke in pieces for the sake of their material. To this position, therefore, I have assigned the few undestroyed fragments which their vandalism has left us, arranging them as shown in the two sectional views of my restoration.[c] Of course, like all the other

[a] Sir Charles Newton himself described them at first, unadvisedly, as women. *Travels and Discoveries in the Levant* (London, 1865), ii. 132-3.

[b] In Gerhard's *Auserlesene Griechische Vasenbilder*, theil II. taf. cvii., a young man is shown as charioteer, who, besides wearing a similar tunic, has a long plait of hair, like a woman's, hanging down his back.

[c] See above, fig. 3; *cf. Archaeologia*, liv. pl. xxiii. xxiv. (sectional views). Mr. Murray has suggested, in a lecture before the Glasgow Archaeological Society in 1894, and since brought to my notice, that these panels may perhaps have been fitted into some of the coffers in the ceiling of the peristyle. Such an arrangement, however, seems to me hardly likely to have satisfied the sculptors of the Mausoleum. Small groups of figures, in a series comprehending various unconnected subjects, require a near and clear view to be even intelligibly made out; and their workmanship, if, like these, highly finished, needs ample facility for inspection. To place them in ceiling recesses which have no direct light, which are perpendicularly over the spectator's head, and at least 30 feet above it, would be virtually sacrificing works evidently intended for the fullest examination. I prefer, therefore, the different destination here assigned for them.

decorations referred to by De la Tourette, they could only have been inspected by the light of lamps; but this was the case everywhere with all sculptures and paintings found in the inner chambers of ancient sepulchres.

Turning now from the friezes and other reliefs to the detached statuary, the principal known group is that of the quadriga. There is here no question of position, Pliny having informed us that the quadriga stood on the summit of the monument. The word itself involves, *ex vi termini*, four horses and a chariot; but who, or how many persons, occupied the chariot, neither the word itself nor any ancient writer shows. Fortunately this, the most important sculptural decoration of the whole building, happens to have survived in the fullest preservation. The earthquake which overthrew the Mausoleum seems to have split the quadriga longitudinally, or nearly so. A small portion of it dropped off on the south side, but the principal part was precipitated to the north, and its elevation giving it a greater swing, it was carried, apparently in almost one body, beyond the wall of the *peribolus*. Its enormous weight, falling from so great a height, would naturally have driven it some way into the unpaved ground, whence, in the then abandoned and depopulated state of Budrum, no one would or could have extricated it. Soon, I imagine, it would get covered with earth, or overgrown with vegetation, like the whole basement of the Mausoleum itself, which was lost to sight and knowledge before 1522. In this happy concealment, protected alike from the air and from man, it slept undisturbed till unearthed by Sir Charles Newton, and he was thus enabled not merely to recover some important portions of a chariot-wheel, and remains of horses exceeding in all a quarter part of the whole four, with attached bronze harness which would doubtless have been plundered if exposed earlier, but, by a singular good fortune, found also nearly the whole of two semi-colossal statues of singularly fine workmanship, and, notwithstanding numerous fractures, in excellent surface preservation. Mixed up with them were found many marble steps, evidently belonging to the pyramid over the apex of which the quadriga was placed, and, amongst or very near them, various parts of smaller figures unconnected with the quadriga, but evidently hurled by the same centrifugal force from some lower positions on the north side of the Pteron. All the semi-colossal remains heaped together on this spot, whether of chariot, horses, woman, or man, Sir Charles Newton at once concluded to have belonged to the quadriga. The male figure, the head of which presents one of the noblest specimens of ideally treated portraiture that has come down to us from ancient times, he assumed to be that of Mausolus; and the attribution has, I believe, been unanimously accepted both by English and foreign critics

The female figure, however, which has unfortunately lost nearly all the face, retaining only the hair and head-covering, has been the subject of some controversy.

It is important for our purpose to determine at once the personage represented by this latter figure, as its position in the chariot, whether to the right or left of its companion, may be materially affected by the decision. Sir Charles Newton considered it to be a goddess, driving the car of Mausolus, and therefore standing on his right hand.[a] This interpretation, however, does not seem to me compatible with the religious ideas of the Greeks in the middle of the fourth century. The placing of any mere mortal in the same chariot with a deity, who acts merely as a charioteer, while he appears as παραβάτης, and this without suggesting any exceptional circumstance, historical or mythical, to explain the position, would be equivalent to formally deifying him. This, done without any recognised religious authority, would have shocked public sentiment as an act of presumption, if not impiety. Deification was not, at the era of Mausolus, awarded to the dead at the pleasure either of an arbitrary ruler or an obsequious artist. It is true that, about half a century earlier, during the widespread ascendancy acquired by Lysander after the battle of Ægos-Potami, some time-serving states sought to propitiate his favour by raising altars in his honour, and decreeing sacrifices and pæans to be offered to him as to a god.[b] But this impious adulation, which was without precedent in Greece, and made Lysander the object of general odium, ended at least with his life. It cannot, therefore, be considered an authority for the practice of posthumous deification in the fourth century. Even a generation later than that of Mausolus, Alexander, though at the height of his power, did not venture to pay honours implying divinity to the memory of Hephæstion till he had first obtained from Egypt, in an oracle of Zeus Ammon, an authoritative direction so to do.[c] Sir Charles Newton justifies his introduction and employment of a goddess by two illustrations, one drawn from history, the other from legendary art. The first is from the story of Pisistratus, who is related to have driven into Athens in a car with, apparently, Athene at his side, though in reality only a woman in disguise. The second is the representation on painted vases of Heracles conducted in a quadriga by Athene. To these he might have added a third example drawn from literature, the chariot of Diomedes in the *Iliad*

[a] *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 249.

[b] Related by Plutarch, *Vita Lysandri*, c. xviii., on the authority of the historiographer Duris, who said that Lysander was the first Greek who ever received such a tribute.

[c] *Diodorus Siculus*, lib. xvii. c. 115.

having been driven by Pallas in the conflict with Ares.[a] None of these illustrations, however, seem to me conclusive, or even strictly applicable. The contrivance of Pisistratus, though it served its purpose at the time with an ignorant and superstitious populace, was afterwards denounced by Herodotus as a *πρῆγμα εὐηθέστατον*, a piece of charlatanry so gross as to throw serious doubt in the historian's mind on the alleged intellectual superiority of the Athenian race.[b] Certainly, therefore, it cannot now be accepted as a fair exemplification of Greek ideas in an enlightened age on the relation between the gods and men. The representation of Heracles driven by Athene I freely accept as an instance of apotheosis. But Heracles was the son of Zeus; he had accomplished in his lifetime a series of superhuman feats, and his deification after death was formally authorised by the Delphic oracle,[c] and everywhere admitted by the Greeks as part of their religious belief. Diomedes had personally no such claim. But the intervention of Pallas Athene as his charioteer was a special incident in the great national epic, which comprehended in its machinery both gods and men. That incident represented one deity as availing herself of an human agency for the purpose of venting her wrath upon another of her own rank. This did not involve the deification of the mortal selected as her temporary coadjutor; nor would any Greek of the historic age have inferred from such an incident a right to extend the privilege of being driven by a goddess to himself or any contemporary with a view to his personal glorification.

There is, indeed, one of the higher gods who might without irreverence or presumption have been grouped with a mortal lately dead upon a sepulchral monument. This is Hermes in his character of Psychopompus. Professor Ramsay discovered a tomb in the so-called Midas-Necropolis in Phrygia, upon which Hermes was sculptured in this character; and in the *Journal of Hellenic Studies*[d] he refers to a statement of Babrius, which further illustrates this form of obituary

[a] *Ἡ δ' ἐς δίφρον ἔβαινε παραὶ Διομήδεα δῖον*

* * * *

Λάζετο δὲ μάστιγα καὶ ἤνια Παλλὰς Ἀθήνη.

Homer, *Iliad*, lib. v., v. 840.

[b] *Clio* (I.), 60.

[c] The courageous speech in which Callisthenes opposed the deification of the living Alexander, as recorded by Arrian, contains the following reference to Heracles: *Οὐδὲ αὐτῷ τῷ Ἡρακλεῖ ζῶντι ἔτι θεῖαι τιμαὶ παρ' Ἑλλήνων ἐγένοντο, ἀλλ' οὐδὲ τελευτήσαντι πρόσθεν ἢ πρὸς τοῦ ἐν Δελφοῖς ἐπιθεσπισθῆναι ὡς θεὸν τιμᾶν Ἡρακλέα.* *Anabasis*, lib. IV. ii. 7. The whole speech explains very clearly the ideas of the Greeks on the religious question.

[d] Vol. iii. No. 1.

art.[a] It is in this sense, I have no doubt, that the figure of Hermes is introduced on some of the vase-paintings of the apotheosis of Heracles referred to by Sir Charles Newton. But these representations, which are founded on the special *cultus* of a particular deity, are no authority for the introduction of any other deity upon monuments of the dead for the mere purpose of posthumous flattery.

Among ideal personages of lower rank than the Olympic cycle the only one I can think of as appropriate for the office of charioteer would be Nike, the personification of Victory. Pausanias relates that Cratisthenes was represented in a sculptural group by Pythagoras, of Rhegium, as accompanied in a car by Victory;[b] and quadrigas are driven by Victories on the coins of Hiero II., of Syracuse, and on those of Philistis, though these figures are not accompanied by any παραβάτης. But the statue in question is clearly not a Victory, being veiled as a matron, and having no marks of wings on her shoulders; for I need hardly say, that a figure of Victory without wings is unknown in the mature age of Art.[c]

On these grounds I conclude that the female figure in the quadriga does not represent an ideal, but an actual human person. How much, however, is that conclusion strengthened when the spectator compares that figure, as now seen in the Museum, with its male companion! The height of the former is given in the official *Guide* as 8 feet 8 inches, whilst that of Mausolus is 9 feet 10 inches. Now, in every representation I have seen in ancient art, a tutelary deity, even though female, is made at least equal in stature to the mortal whom she protects. But the female figure here does not even attain to the normal proportion of her sex as compared with the other. That proportion may be roughly stated as equivalent, on an average, to 5 feet 9 inches in the man, against 5 feet 4 inches in the

[a] *Fab.* 30.

[b] Pausanias, vi. 13, § 4, s. 7; 18, § 1.

[c] According to a scholist on Aristophanes (*Aves*, 574), wings were first given to Victories by Archermus of Chios, whom C. O. Müller places about the middle of the sixth century B.C. See *Ancient Art and its Remains* (English edition), 394. That they were at least so applied, if not invented, by that sculptor, is shown by the recent discovery in Delos of an archaic winged statue of the goddess, having an inscription on its pedestal, which is read as containing the name of Archermus. See Murray's *History of Greek Sculpture*, i. 5; ii. 187; and *Handbook of Greek Archæology*, 247-8. The wingless type, however, was not at once abandoned, for Calamis, who is believed to have lived 100 years later than Archermus, made a Victory without wings for the Mantineans to dedicate at Elis, which Pausanias (V. 26, § 5) says was an imitation of an early statue at Athens. Nevertheless, wings had become by the middle of the fifth century the characteristic attribute of Victory, as may be seen from the celebrated statue by Pæonius discovered at Olympia, on which the mark of the lost wings still remains on the shoulders. In the series of reliefs also from the Temple of the so-called *Nike Apteros* at Athens, every figure of Victory is represented as winged.

woman. Thus 9 feet 10 inches in a male statue would, to be in due proportion, require 9 feet 1 inch in a female. The figure in question, however, is 5 inches below that height. Is it conceivable that, if a tutelary divinity had been intended, the sculptor would have made her of proportions markedly below those of an average woman? As the two statues now stand side by side in the Museum few persons, I think, could imagine that the little goddess on the right was guiding and guarding the mighty mortal on the left without some sense of the ridiculous.

Assuming then that the female statue is simply the *Eikon* of a woman, there can be no question whom it represents. All difficulty in the proportion between the two figures disappears, if we suppose that the portraiture corresponds strictly with the reality, that either Mausolus was considerably above, or Artemisia considerably below, the average height of his or her sex. The former alternative is suggested by the language of Lucian, and is doubtless the right one.[a] This realistic explanation accords also with the treatment of the female figure itself, which is modelled with a certain fullness and even incipient deterioration of form suited to the time of life the Queen would have reached when her husband died, instead of with the lightness and shapely roundness which would have marked the unimpaired symmetry of an ideal and ever-youthful personage.

The relative position of the two statues, as they stood in the quadriga, is a question of greater difficulty. Sir Charles Newton, with his interpretation of the female figure, placed her, of course, in the post of charioteer, and the present authorities of the Museum, whatever their opinion may be as to the personage intended, have not thought it right to remove the statue from the position he had assigned to it. The question depends partly on what I may call abstract or theoretical considerations, partly on others connected with actual indications in the marbles themselves.

Under the first head I would note, *imprimis*, that the motive of the person who designed the quadriga should be interpreted somewhat differently from that which inspired the Carian queen in erecting the Mausoleum. The object of Artemisia was simply to do honour to her husband's memory, and if she had herself sketched out the chariot group, she might possibly have conceived the idea of driving him in imagination with her own hands to the heavens. But Artemisia never knew anything of the chariot group. She died whilst the original architectural scheme was in progress, and in accordance with that scheme the pyramidal roof, terminating in a *metæ cacumen*, was duly completed after she had been laid in the

[a] Καλὸς ἦν καὶ μέγας. v. *Dialogi Mortuorum*, xxiv. (*Diogenis et Mausoli.*)

grave. Later on, we know not exactly how soon, came the alteration made by Pythis.[a] Whenever that took place, Idrieus, or possibly even his widow Ada, had succeeded to the Carian throne, and Mausolus and Artemisia were both alike enshrined in history. It is not improbable, therefore, that at that later date a leading motive for modifying the already finished monument would have been a wish to extend to the illustrious woman, to whose munificence the whole structure was due, a share in the honours which she had designed for her consort alone. Thus, under a succeeding member of the family, the quadriga would be added as an historical memorial of the two departed rulers, jointly and equally.[b] To those who raised that memorial they had been known as husband and wife; and as such they had to be represented in sculpture. Their mutual relationship would be naturally expressed by the position of the two figures. Now it will hardly be disputed that, despite certain peculiar androgynous eccentricities in recent times, it has hitherto been customary in all ages and countries for the male, not the female, partner to take openly the lead in all public appearances, to preside, not to be presided over, in every outward presentment of conjugal life. Greek sentiment, at all events, did not favour an inversion of this natural relation of the sexes. Wherever, in Greek works of art, a married pair, at least of human, not divine or mythical persons, is represented driving in a chariot, the husband holds the reins, and, if there is one, the whip. There is, for example, a class of painted vases, commonly known as "Marriage Vases," on which a bridegroom and bride are seen together in a quadriga. In these paintings, which are to be understood as representations of common life among the Greeks, the bridegroom habitually appears as charioteer, the bride standing by his left side.[c] If ever an exception occurs to this arrangement, it will be found, I think, to arise from some special mythical or historical allusion, perhaps unknown to us, which takes the subject

[a] The explanation of this alteration, and the arguments by which it is proved, are fully set out in my former paper, in *Archaeologia*, liv. 294-298.

[b] Mr. J. J. Stevenson, in a paper read before this Society on 7th May, 1896, and afterwards published in the *Builder* (29th August, 1896), in endeavouring to disprove my contention that the work of Pythis was really a modification of the original apex of the pyramid, resorts to the somewhat singular argument that after the death of Artemisia there would be no one to pay for so expensive a work as I suggest; as if Idrieus and Ada, inheriting the throne and the wealth of Halicarnassus, would have been unable to defray the cost of such a memorial of their brother and sister!

[c] For examples of this subject v. Gerhard's *Auserlesene Griechische Vasenbilder (Hochzeitwagen)* iv. pls. cccx.-cccxv.

out of the category of common life, and transfers it to some other which has no relation to the present question.

Upon these so-called abstract or theoretical grounds I should not have hesitated to assign to the figure of Mausolus the dexter, and to that of Artemisia the sinister, place in the group. But it is necessary to take into account any indications in the marbles themselves which may throw light on the question of position, whether those indications are of an artistic or purely mechanical character.

First, then, as to indications of an artistic character, or connected with probable artistic motives. Here it must be pointed out, *in limine*, that the full front view of the two statues, as we now see them on entering the Mausoleum Room, is not that which would have presented itself to the ancient spectator, when the quadriga was *in situ*. If the four horses were again complete and arranged as formerly, a person standing in front on the floor of the room would have but an interrupted view of the two figures behind them. But if that person can be supposed to have been standing on the ground before the principal front of the Mausoleum itself, that is to say, 126 feet below the platform of the quadriga, and near enough to the building for examining its sculptural features, he would necessarily have seen nothing of the two figures at all. The only directions from which, within any moderate distance, they would have been visible without obstruction (except from behind, where they would not have been worth looking at), would be the two sides. Even from the sides one figure only at a time would have been fully seen, the other being more or less hidden behind it. Now a judicious sculptor, especially if he be also an architect, as Pythis is very commonly supposed to have been, would carefully calculate the available points of view, and adapt his composition to them. What he would here chiefly consider would be the pose of body and limb and the cast of drapery, which would best display one side of each figure, the right side of one and the left of the other, to a spectator standing 126 feet below. Observe, that as the quadriga is assumed to have faced the east, the driver would have stood on the south side, and the παραβάτης or companion on the north. Take then, first, the statue of Mausolus, and inquire on which side of the chariot would the best profile view of it be obtained from the ground below. Mausolus rests his weight on his right foot, and thereby brings his head nearly perpendicularly over it, making the line from the right shoulder to the right foot overhang slightly to the right or south side.[a] If, therefore, the statue stood on that side of the chariot, a person looking up from the south would have

[a] See the accompanying plate, taken from photographs from the original marbles.



STATUES OF MAUSOLUS AND ARTEMISIA.

Photographed from the Originals in the British Museum.

the best profile view of the whole figure, and especially of the head, which was possible from below. But if it stood on the left or north side, a person looking up from that side would see the figure slanting away from him, and the head at least partially hidden by the somewhat upraised left shoulder. With the statue of Artemisia these conditions were really reversed, though, as that statue now stands in the Museum, their effect is less clearly seen than the effect of the converse in the statue of Mausolus. She rests on her left foot, and naturally therefore her body, if rightly poised, as it doubtless formerly was, would lean gently over towards the left or north side.[a] This, therefore, is the side from which the best view of her whole figure would have been obtained from below.

But this is not all, in the artistic point of view. There is another distinction between the two figures. Mausolus, by resting on the right leg, keeps that leg comparatively back, whilst the left leg, having the knee bent, is at that part more advanced. Consequently, from the right side, and from that side only, would the whole of one leg, and part of the other, be seen in the profile view. Artemisia, on the other hand, has the left leg rather kept back, and the right knee slightly brought forward. The left side, therefore, is the only one from which both the legs would be, one wholly, and the other partially, visible in profile. Now, in all good composition, where a statue is practically to be seen only in one direction, the artist takes care that both the legs (and, indeed, both the arms also, though with them we have not here to deal) should be visible from that direction. This is desirable, not merely to satisfy the spectator's mind with a sense of completeness, but to obtain variety and contrast as well in the inclination of the limbs as in the folds of the drapery resulting therefrom. The only way, then, in which this end could have been obtained with each of the figures was to place Mausolus so as to be seen from the right or south, and Artemisia from the left or north, that is, to make him the charioteer, and his wife the *παραβάτης*.

Next, as to any indications of a more mechanical character which the marbles themselves may supply for determining the question of position. Certain of these

[a] In repairing and setting up in the Museum this marble, which is made up of broken parts with some necessary restorations, the head has been hardly brought sufficiently over the foot on which the weight of the body rests, so that a certain indecision of balance appears now in the whole figure. A better idea of the pose intended by the sculptor may be gathered from the plate in Sir Charles Newton's *Travels and Discoveries in the Levant*, ii. 116, pl. 10. That plate was photographed from a drawing by Mrs. Newton, who, with a true artistic instinct, represented the figure as it no doubt originally stood. Unfortunately, it has not been found practicable to obtain a photographic copy either of Mrs. Newton's drawing, or of the plate published in her husband's work, to illustrate the argument above stated.

indications, it has been thought, point to a reversal of the conclusion resulting from the preceding arguments. Not that the attitude of the figures, so far as still traceable, can be alleged to imply that the female, rather than the male, was holding the reins. On the contrary, the remains of the arms, though in both cases too much mutilated for a quite decisive conclusion, yet do on the whole accord best with the supposition that the husband, not the wife, was, as usual, the driver. For the arms of the female figure are both broken off only a little below the elbow, and enough of each forearm remains to show approximately its original direction. It thence appears, as I think, pretty clearly, that the right forearm and hand of that figure must have been too much turned outwards and drooped, and the left forearm and hand held too high, for good form in driving, especially with the reins of four horses to hold. The figure of Mausolus, on the other hand, has lost the whole of the right, and all but the whole of the left arm from near the head of the humerus; so that there is nothing to disprove both arms having originally been disposed in a position quite suitable for driving. The true position for the arms of a charioteer is well shown by several examples in the procession of quadrigas in the Parthenon frieze. In all of these the forearms of the driver are placed horizontally in front of his body. The reins, indeed, are there held in both hands, the horses being in motion, and the charioteers having no other function to fulfil than driving. In the Mausoleum quadriga the horses are at rest, making, as it were, the last pause before beginning their march to the fields of Elysium. One hand, therefore, might suffice to hold the reins, whilst the other was more dramatically employed in some manner expressing the character and dignity of the driver. Regarding the whole group as I do, as a memorial, not merely of a conjugal pair, but of two successively reigning sovereigns, I would suggest, conjecturally, that each of them might have held in one hand a sceptre, which, in accordance with the system of decoration adopted in other parts, would probably have been of gilt bronze. Mausolus, on this supposition, would have had the sceptre in his right hand and the reins in his left. Artemisia, holding her sceptre in her left hand, would have extended her right slightly towards her husband's body, though whether actually touching or only approaching it, it is impossible, from the mutilated state of her right arm, to say.

There is, however, a certain mechanical fact which, in spite of the preceding arguments, has been asserted, originally, I believe, by Sir Charles Newton, to determine the position of the male figure to the sinister side. This is the occurrence of a sharp notch or excision of the drapery on the left side of that figure a little below the knee, which, it is alleged, could only be accounted for by

supposing the rail of the chariot to have there impinged upon that drapery. In answer to this, indeed, it has been pointed out that, if the mantle which hangs from the shoulder of the figure had originally fallen on the rail, it would not have been cut off abruptly in a nearly horizontal line, but would have been gathered in a fold on the top of the substance which obstructed its descent. In reply to this objection, however, it has been suggested by Mr. Murray, in support of Sir Charles Newton's view, that probably the drapery, as we now see it, does not represent the sculptor's original design, but that, when the figure had been deposited in its intended place, it was discovered that there was not sufficient room for it in the car, and that then, as the easiest escape from the difficulty, a piece of the hanging mantle was summarily cut away, far enough to allow of the insertion of the rail; in evidence of which the rough surface of the scarred drapery now exposed is pointed to, which seems to have been rudely hacked with a pick or other heavy instrument, like a piece of hammer-dressed building stone, instead of being smoothly fitted for a joint, as it would have been if prepared beforehand in the workshop.

But there are, I think, serious objections to this ingenious interpretation of the mysterious notch. First of all, it obliges us to attribute to eminent Greek artists an almost incredible degree of carelessness or incompetency in not properly adapting the chariot and its occupants to each other, both in dimensions and arrangement, before raising them to their place. Secondly, it does not explain, any more than before, the hanging drapery ending in a horizontal line without any gathered fold, when its fall was arrested by the rail. Thirdly, it places the rail, which would have been a bronze *antyx*, at least a foot too low; for in Greek chariots this rail (see fig. 4), which was supported by upright stanchions above the solid side of the car, is never represented as below, or even on the level of, the occupant's knee, but generally as high as, or even above, the middle of his femur.[a] Or if, to meet this, it were suggested that the notch might mark the insertion not of the rail, but of the top of the solid side of the car, which in respect of height would be right enough, then the drapery above ought to show another notch for the insertion of the rail; whereas that drapery, which still retains its original surface, shows no excision whatever. Lastly, if, as the hypothesis suggests, the figure had been unexpectedly found closely jammed against the side of the car, it

[a] Examples of this may be seen on the slabs marked 40, 41, and 44, 45, in the Elgin Room; as well as on painted vases (from one of which the illustration in the text is taken) too numerous for citation.

would not have been possible, whilst both marbles remained in place, to work any cutting implement between them; nor, if it had been possible, would it have been advantageous but the contrary, for the more the side of the car was brought in by the operation, the further would the upper part of the figure have projected beyond it, and the less room would it have found below for getting in its left foot.

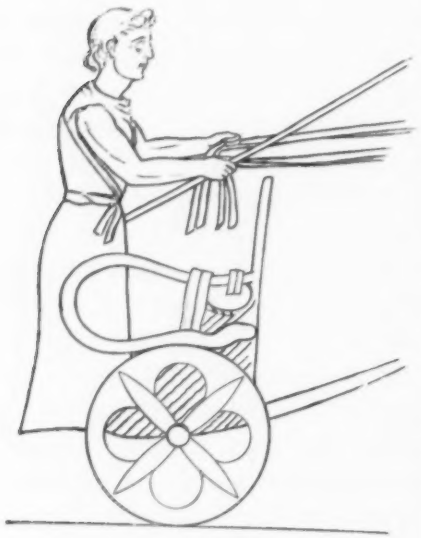


Fig. 4. Figure of a Greek charioteer.

For these reasons it seems to me that the suggested explanation of the present state of the marble by placing Mausolus on the left of his wife, however ingenious and at first sight plausible, is by no means free even from mechanical objection. Another solution may, I think, be found without discrediting the care or skill of the artist who designed this compound group, and without involving the removal of the male figure from its natural position on the right. Suppose, for instance, that in raising that figure to its proper place the lower part of the cascade of drapery depending from the left shoulder was somehow broken off, an accident which I venture to think not altogether improbable among a people less advanced in engineering than in the sculptural and other formative arts. On the occurrence of such a fracture a new piece of drapery would have been prepared, and joined on by such means and in such manner as was practicable without lowering the statue from its airy height. The drapery above the fracture would then be cut to a nearly straight edge, and the side of the figure would be hammered away so far as was necessary for securing the new piece. When afterwards the whole group was overthrown, and this statue shattered into fragments, the added piece would of course be broken away and lost; whilst the side to which it had been attached would retain no distinguishable marks of any fixing which had been used for securing it. This hypothesis would remove the only reason alleged for transferring the male figure to the left side, and would leave both statues in their natural positions, standing quite free and untouched by either side of the chariot. I am conscious, however, that these latter details cannot be satisfactorily judged of except in presence of the actual sculptures; and I can only hope that some of my readers may be sufficiently interested in

these masterpieces of ancient art to examine them as they now stand in the Museum, and judge for themselves of the relative weight of the arguments on each side.

Meantime, I may point out that, in my architectural restoration of the Mausoleum, published before I could explain my views on the original composition of this group, I thought it best to represent the two figures as they are actually to be seen, as arranged by Sir Charles Newton;[a] but in the illustrations of the present paper I have placed them in what I believe to have been their true ancient position.[b] Saving only this one particular, the present disposition of the remains of the quadriga seems to me correct, and sufficiently effective to strike, if anything can, a spark of admiration for Greek genius even from the unimaginative mind of the ordinary British visitor.

II. Read December 3rd and 10th, 1896.

Since the observations on the relative position of the two principal human figures which I read at our last meeting were first committed to writing, I have become acquainted with a somewhat startling theory, unknown before not only to me but evidently also to Sir Charles Newton, which, if accepted, would not merely render inapplicable great part of the arguments here advanced, but would at the same time be fatal to the scheme of arrangement for the quadriga group adopted by the authorities of the Museum. In a paper contributed to the *Journal for Hellenic Studies*[c] Professor Percy Gardner has contended, with much ingenuity and variety of reasoning, that the car of the quadriga was from the first left empty by Pythis, purposely as a symbol of the death of Mausolus; and that, consequently, the two semi-colossal statues, the remains of which were discovered mixed up with those of the quadriga, must formerly, in common with the various smaller sculptures found in their immediate neighbourhood, have had their place in some lower part, which he does not undertake to specify, of the Mausoleum building.[d] This theory he supports chiefly by the following arguments:

[a] *Archaeologia*, liv. pl. xxiii.-iv.-v.

[b] See figs. 2 and 3.

[c] Vol. xiii. (1892-3).

[d] This theory seems to have been first suggested by Stark (*Philolog.* xxi. 464); and Mr. Gardner states that it was accepted by Wolters, and, with some reserve, by Overbeck.

I. That Pliny does not mention any occupant of the chariot.

II. That important iconic statues, highly finished, would not have been placed by the Greeks in a position where they could not be properly seen.

III. That the weight of the two statues in question would have required the bottom of the car to be joined solidly to the flooring on which it stood, and thus have disfigured the group.

IV. That many Greek sepulchral reliefs show a horse without a rider, and that in our own military funerals a similar spectacle is seen.

V. That neither in costume, attitude, nor expression of wind-action on its drapery, does either of the figures show any resemblance to a Greek chariot driver, or any relation to the horses they are supposed to be driving.

VI. That the head of Mausolus does not show any such degradation of surface from weather as a marble exposed for centuries on the summit of a building would be likely to incur.

VII. That the two human figures are on a smaller scale than the horses, or than the chariot-wheel, if this was constructed in the usual proportion to the other parts of the quadriga.

VIII. That their artistic execution is so much superior to that of the horses, that they can hardly have been the work of the same sculptor.

Formidable as this array of arguments undoubtedly appears, I will nevertheless venture to state the reasons why they do not seem to me conclusive for their purpose. This must, however, be done somewhat briefly, not from any want of respect for the high authority by whom this theory is put forward, but simply from reluctance on my part to trespass too far on the indulgence which the Society has already extended to me so liberally. I will take the several arguments in their order.

I. "That Pliny does not mention any occupant of the chariot." This, as it seems to me, tells, so far as it tells at all, rather against than for Professor Gardner's theory. For, if it be thought surprising that Pliny should not mention the occupants of the chariot, if there were any, it would surely be much more surprising that he should not mention so strange a phenomenon as a chariot exalted to the skies without any occupant, if there were really none. The natural inference from his silence on this point is, that the quadriga was seen under the usual conditions, that is, having one or more persons in the car; and the only explanation needed for such silence is to be found in the extreme conciseness of his whole description.

II. "That important and highly finished statues should not, and therefore in

Greek buildings would not, be placed where they could not be properly seen." There is undoubtedly weight in this objection, viewed merely as an abstract proposition. But how far, as a matter of fact, the Greeks held the objection insuperable in the case of lofty sepulchral monuments, we are unable to decide upon evidence, as we know of no other Greek monument similar to the Mausoleum in height. The Romans, at any rate, did not hold the objection insuperable, for they placed the statues of Trajan and Marcus Aurelius on columns of nearly as great elevation as this, and crowned the Mausoleum of Augustus with his effigy, and that of Hadrian with a numerous array of statues.

III. "That the weight of the two semi-colossal figures would have required the bottom of the car to be joined solidly to the flooring below, and so have disfigured the whole group." Certainly, they would have required a substantial, and perhaps somewhat unsightly, prop or props beneath the car, to support their weight. But as the sculptor did not shrink from the far worse unsightliness of a series of props under the bellies of the four horses, he is hardly likely to have felt any squeamishness in similarly treating the chariot. All these greater or less disfigurements were an inevitable result of the unhappy choice of marble, instead of bronze, for the material of this colossal group.

IV. "That many Greek sepulchral bas-reliefs show a horse without a rider, and that in our own military funerals a similar spectacle is exhibited." The answer to this is, that in such reliefs the unridden horse is not meant to indicate his deprivation of his master by death, for the master is very frequently found in the same scene taking leave of his family, and ready shortly to remount. The horse is simply waiting to convey the deceased to

> The undiscovered country, from whose bourne
> No traveller returns;

as is shown by the several tablets in which only the head of the steed is introduced, without any view of the empty seat, which, upon Mr. Gardner's hypothesis, would be required as a key to the symbol.[a]

In modern military funerals the charger without his late master furnishes a vivid contrast between life and death, and a pathetic image to surrounding friends. Nevertheless, when we propose to commemorate a departed warrior by

[a] It is unnecessary, for the present discussion, to take notice of the very different interpretation given by many archæologists to the horse on these tablets, treating it merely as an indication of knightly rank.

a marble or bronze monument, we do not think it sufficient to put up a statue of his riderless horse.

V. "That neither in costume, attitude, nor expression of wind-action on the drapery, does either of the figures show any resemblance to a Greek charioteer, or any relation to the horses supposed to be driven." No, certainly; for, being intended as portraits of two great rulers, neither of them would wear an attire which was designed with a view to the hippodrome. Nor would either of them stand in the eager, forward-bending attitude, or show the wind-driven tunic, of the drivers in scenes of chariot-races; for both they and their horses were intended to be seen at rest, in the calm air of the empyrean.

VI. "That the head of Mausolus shows too little deterioration from weather to have been exposed for centuries on the top of a building." I reply, that whatever deterioration would have befallen that head would equally have befallen the head of the quadriga horse, which is of the same marble, and was without dispute exposed on that spot. Yet the one head is as little impaired by the weather as the other.

VII. "That the two human figures are on a smaller scale than the horses, or than the chariot-wheel, if the latter bear the usual proportion to the other parts of the quadriga." The proportion actually maintained in these sculptures involves necessarily a somewhat minute investigation.[a] But as it is undoubtedly an important element of the question, I will state summarily the results of all the measurements I know to have been taken.

First, as to the ratio between the two figures and the wheel. The height of Mausolus is 9 feet 10 inches. The diameter of the wheel, as restored, and I think rightly restored, by Mr. Pullan, is 7 feet 7 inches. This makes the wheel almost exactly seven-ninths of the height of the principal figure. Now Professor Gardner states, and the statement is quite in accordance with my own observations, that in most Greek representations of quadrigas the wheels do not exceed half the height of the charioteer. Nevertheless, it may here be pointed

[a] On this proportion, as a matter of fact, there seems a curious contrariety of opinion between the two learned critics, one of whose views we are now discussing, and both of whom, from their official connection, present or past, with the Museum, might be considered authoritative experts. Mr. Murray thinks that the two semi-colossal statues, when raised to their place, proved so much too large, or at least too broad, for the chariot, that the drapery of Mausolus had to be hacked away at the side, before it could be got into the car; whilst Professor Gardner thinks both statues were so much too small both for the chariot and the horses, that they could not originally have belonged to the quadriga group at all. *In medio tutissimus ibis*, I venture to say.

out that we are dealing with the chariot of an Asiatic ruler, and one who, as his marriage with his sister shows, was not altogether akin to Hellenic civilisation. In the grand mosaic of Pompeii, which is believed to represent an event of only twenty years later date than the death of Mausolus, the wheel of the royal chariot is at least equal in diameter to the full stature of Darius himself, which implies that in Persian chariots, at any rate, the wheel was of much larger proportion than was usual in Greece.[a] I will not, however, lay too much stress on this example, for the Pompeian mosaic was no doubt the production of a school that had little affinity with that pure Greek art which may be expected to have regulated the work of Pythis. But contemporary Greek coins may fairly be referred to for authority; and there are abundance of these to show that the general rule, as stated by Professor Gardner, is not without many exceptions. Examples are given, both by Mionnet and in Mr. Gardner's own beautiful work on the Greek coinage, showing wheels of at least two-thirds, if not three-quarters, of the height of the charioteer, and therefore not in a much lower ratio than those of our chariot.[b] And the proportion of the wheel to the horses, which the sculptor probably regarded as much as or more than its proportion to the human figures, is in these coins fully as high as that of the Mausoleum wheel.

Secondly, as to the ratio between the two figures and the horses. Mr. Murray, in a lecture given at the Royal Academy in 1893, stated that he had measured the head of Mausolus and also that of the horse whose forehand is preserved, and found that they were respectively 15 inches and 41 inches in height. He had likewise measured the head of the Theseus and the heads of the horses in the eastern pediment of the Parthenon, and found them respectively 12 inches and 31½ inches. Supposing these dimensions to be perfectly trustworthy, though they must have been somewhat difficult to take to a minute fraction, it results, by means of a rule-of-three sum, that the head of Mausolus is just five-eighths of an inch less than it would have been if the same proportion had been observed between man and horse as in the Parthenon sculptures. Few, however, would, I think, consider this trifling variation as a serious obstacle to the connection between the two human figures and the horses of the quadriga. But further, Professor Gardner says that he measured the height of the Mausoleum horse to what he calls the "saddle," and found it 8 feet 6 inches. The height of

[a] Gargiulo, *Recueil des Monuments du Musée Royal Bourbon*, iii. pl. 51.

[b] Mionnet, *Medailles Grecques*, pl. lxvii. 1, 3, 5 (Syracuse); Gardner, *Types of Greek Coins*, pl. vi. 25-28 (Syracuse); ditto, 29 (Catana).

Artemisia, however, as stated in the official *Guide*, is 8 feet 8 inches; 2 inches above the measure of the horse. Now a horse of 16 hands to the shoulder is exactly the height of an average well-grown woman, namely, 5 feet 4 inches; so that, if Artemisia was of that normal stature, this horse must have been intended for a little under 16 hands, a fraction indeed over $15\frac{1}{2}$. Surely this does not show any serious disproportion between the figures thus compared. It is true that horses are commonly represented in Greek works of art as much below 16, or even 15 hands. But this arises, not simply from the predominance of a smaller breed of animals in ancient times, but also, and perhaps chiefly, from a conventional license familiar to Professor Gardner and all classical archæologists, whereby the size of the horse, when represented in company with a man or woman, was regulated not so much by the average proportions of nature as by the well understood requirements of art, a principle which involved an adjustment of the scales of the figures partly to the available space, whether in architecture, coinage, or vase-painting, and partly also to a certain regard for the relative importance of man and beast. In the frieze of a building both these considerations generally pointed to the representation of the horse under the smallest type which could be admitted without destroying the sense of reality. But at the summit of a lofty monument horses in the proportion of 15 or 16 hands, such as we have good reason to believe existed both in Greece [a] and Asia Minor, might legitimately have been chosen by the sculptor if he thought them more conducive to grandeur of effect.

8. "That as works of Art, the two human figures are so much better designed and executed than the horses of the quadriga that they could hardly have proceeded from the hand of the same sculptor." This superiority I do not in itself care to dispute. But when Pliny speaks of *quadriga marmorea quam fecit Pythis*, I do not think it necessary to understand that Pythis, who, according to one hypothesis, was one of the original architects of the Mausoleum,[b] modelled or carved this great work with his own hands. My interpretation of the word would

[a] Such a horse is represented on a coin of Philip II. of Macedon, where the rider's foot barely reaches down to the line of his belly. See Gardner, *Types of Greek Coins*, pl. vii. 39; cf. also a coin of Tarentum, ditto, pl. xi. 4. As an illustration of the breed of Asia Minor I may refer to the Lycian Tomb, now in the British Museum, which has on its roof a bas-relief of Bellerophon in a quadriga pursuing the Chimæra, where the horses, judging from their proportion to the human figures, must have been fully 15 or 16 hands high.

[b] As to the identification of Pythis with Phyteus, see my former paper in *Archaeologia*, liv. 298-300.

rather be, that Pythis, as the then ἀρχιτέκτων, or master artificer employed in the building, invented this group of statuary as an *epithema* to the crowning pyramid; that he probably sketched out its form, and planned the method of adjusting it to the existing apex, which he thereby truncated in appearance, though not in fact; and that he of course superintended the carrying out of his scheme in its chief details. But he would naturally entrust the actual execution of the sculptural work to such artists as he thought best for each part, and would thus probably assign the two iconic figures to a different hand from the one employed for the horses. For the former he might have engaged one, perhaps *the* one thought the most successful, of the three younger artists who decorated the sides of the building in competition; I do not include Scopas, for he, if still living, would probably have been too old for such an undertaking in the reign of Idrieus or of Ada.[a] For the horses we cannot conjecture whom he would employ. Thus any inequality of workmanship, if admitted, would create no real difficulty for us.

There is, however, one peculiarity in the two human figures which ought not to be passed over, as it may possibly be thought to tell against their allocation to the quadriga. The feet of both figures are as beautifully modelled and highly finished as any part of their bodies, although, when placed within the chariot, neither of them could possibly be seen from below. This, however, is only a repetition of the same thoroughness of workmanship which we find in the Theseus of the Parthenon, the back of which, though quite invisible when once placed in its pedimental recess, is as elaborately modelled and worked out as the front. Whatever explanation we may adopt in the case of the Theseus, it can hardly be doubted that, in the case of the Mausoleum, the monumental portraits of the two greatest rulers of Halicarnassus, intended to be fixed at an inaccessible height under the circumstances already explained, would have been publicly exhibited below, as objects of general interest, before being raised to their final resting place. Even if they were not so exhibited, no true artist, certainly none of the four who continued their enterprise after Artemisia's death purely as a *gloriæ ipsorum artisque monumentum*, would have scamped any part of his work merely because it could not in the future have been seen and criticised.

[a] The earliest work of which the date can be fixed on which Scopas was employed was the Temple of Athene at Tegea, rebuilt after the fire in B.C. 394, where he was both architect and sculptor. But this, being a commission of great importance, is hardly likely to have been given him, if he was then very young. The latest work which can with certainty be referred to him is that of the Mausoleum, begun between 353 and 351. Idrieus reigned from 351 to 344, Ada thenceforward to 340. For the date of Scopas, see Sillig, *Dictionary of Artists*, s.v.

Having thus noticed all Professor Gardner's arguments separately, I may be permitted to add one general objection which, in my opinion, goes to the root of his whole theory. It is a theory founded, as I think, on a wrong understanding of the artistic motive of the sculptor, by interpreting his work in a realistic instead of an ideal sense. The quadriga, properly viewed, did not represent an earthly but a celestial vehicle. It was not meant for the carriage in which Mausolus and Artemisia used to drive about Halicarnassus, which was unhappily left vacant by their death. It did not, therefore, appeal to the spectators for compassion, like the riderless horse of the modern general following his master's remains to the grave. The Carians saw in it a higher meaning than this. They saw an image, not of their own bereavement, but of the exaltation of their two late rulers to the happiness and peace of Elysium. To such a design the figures of the departed were as indispensable as that of Heracles was in the quadriga which represented on painted vases his translation to the Olympic realms. With this understanding of the subject it need hardly be added that the two semi-colossal statues found mixed up with the remains of the horses and chariot, and alone of all the discovered sculptures suited in any way to the position, must necessarily, in my opinion, have belonged to the quadriga.

Before taking leave of the question, however, unusual as it is for either of two academic disputants to propose a compromise, I will take on myself to throw out the possibility of a *tertium quid*, which, whilst it would maintain what I think an absolutely essential condition, namely, the connection of the two figures with the quadriga, would at the same time meet what seem to me the only objections of Professor Gardner which may still be thought open to consideration; those, I mean, comprised under his last two heads. I will suggest an alternative, which is merely a conjecture, which is founded on no authority, and which pretends to no merit beyond that of reconciling alleged discrepancies. That alternative is this: that the two principal statues might indeed have been originally designed and executed, as Mr. Gardner supposes, for some important and easily inspected part of the building, probably the Pteron; but that when, at a later time, Pythis resolved to put up his quadriga, to the true significance of which the effigies of Mausolus and Artemisia were indispensable, he took these statues, probably the best available representations of the two dynasts, and transferred them to his celestial car. In so doing, he might easily have acquiesced in, if indeed he did not actually desire, two consequences incidentally involved in the scale of the

translated figures: (1) that the horses would appear to be 15½ hands high; and (2) that the chariot-wheel would be rather of Persian than of Hellenic proportion.

Passing now to the other pieces of detached statuary in the Mausoleum collection, the most important is the equestrian group of heroic size, in which the trunks both of rider and horse, with portions of their limbs, are alone preserved. It is not within my present province to offer any purely æsthetic criticism on this singularly fine work; nor indeed, after Sir Charles Newton's admirable description of it, would anything remain for me to add. What alone we have now to consider is the probable position of the group in the original building. Unfortunately, there are no data for determining this question, not even so much as we had with the several friezes. The group was found within the quadrangular area of the basement rather towards its west side. But the whole of that area had been so disturbed and its contents broken up, even to the very foundations of the building, that no inference could safely be drawn from the particular site of any object discovered there. The boldness of design which distinguishes this piece suggests that it must have been intended for a conspicuous position; and the careful workmanship of the horse's belly implies that it was meant to be seen from below. Mr. Fergusson, induced probably by the *anaxyrides* of the rider, supposed it to represent an Amazon; but the thighs and legs are pretty certainly those of a male figure, though whether of an historical or mythical person there is no evidence to show. I concur in Sir Charles Newton's suggestion that the horseman was probably striking with a lance at an antagonist on foot, though I doubt if the latter was actually "prostrate," as the inclination of the rider's body is hardly sufficient to show that he was bending over an object on the ground. The pedestrian combatant would doubtless have served, if not quite to conceal, yet at least to distract the eye from, the unsightly prop which supported the horse's belly, and which, if the equestrian figure had stood alone (as represented in Mr. Pullan's architectural elevation) would have formed a conspicuous eyesore in its whole composition. All my predecessors in the restoration of the Mausoleum, even Professor Cockerell and Mr. Falkener, who wrote before the discovery of this group, as well as those who have written since, agree in placing a statue of a horseman, either alone or fighting with a foot soldier, at each angle of the building. As there never was any historical authority for such an arrangement, nothing but an instinctive sense of its artistic propriety could have produced this unanimity in adopting it. In the absence of any opposing evidence, therefore, I have

thought it best to follow suit in my own design, treating this group as one of four, of which the other three have perished. I have placed one of them on each of the open platforms at the top of the lower pyramid, intended to emphasise its angles, and show the interdependence of the sculpture and architecture of the building. The figures are supposed by me to represent Asiatic horsemen in combat with Greek hoplites.

The next in importance is the statue of a male personage, fully draped, on a similar scale to the preceding, and equally or even more mutilated. It is seated on a cushioned throne, which seems to imply superior rank. Indeed, it has been suggested that it might have been intended for Zeus himself. But besides that the upper part of the body in statues of Zeus is generally nude,[a] it would be manifestly incompatible with those religious ideas of the Greeks on which I have laid stress in treating of the quadriga group, to make use of the ruler of Olympus as a mere artistic accessory to the glorification of a mortal, however great. I think it probable that we have here a ruined portrait of one of the Carian dynasts of the house of Mausolus. There is no trustworthy external evidence as to the position which this figure originally occupied. We only know that it was found, like the equestrian group, within the uprooted area of the basement. There is one peculiarity, however, in its workmanship which may furnish at least a probable clue to the character of its original position. The back of the figure is quite flat, and but feebly worked, as if it was never intended for general view; and this leads to the suggestion that it may have been designed to fill a niche. In accordance with this idea I have, in my architectural restoration, supposed niches to have been inserted in the podium on its east and west fronts; and in one of these niches the seated statue might have been placed. I may observe in passing that I have given these niches square, not arched heads, for I know of no example of an arch-headed niche in Greek architecture of the autonomous period, and the adoption of such a form in Herr Petersen's restoration gives, to my eye, a quasi-Roman character to his elevation of the front.

There are remains of several other statues in the collection, some on a similar scale to the seated figure, others of only life size, and others also smaller than life. But we have no evidence as to their original positions taken individually. I will therefore consider them and their arrangement collectively in a later paragraph.

There are, however, two semi-colossal female heads, and part of a third, numbered 44, 45, 46, in the official *Guide to the Mausoleum Room*, which are of

[a] It must be admitted, however, that the Zeus of Labranda is an exception to this rule.

sufficient interest to claim separate notice. The first is fairly preserved; the second, having been embedded in a Turkish chimney, has its whole surface ruined by fire; the third is little more than a fragment. All, however, were apparently parts of statues; all are on the same scale; the two entire ones have the same formal and quasi-archaic treatment of the front hair, and all show, as far as can now be traced, the same artistic motive. Probably, therefore, they all belonged to one series of statues. But whom did those statues represent, and where were they originally placed? Neither of these questions do I pretend to answer with certainty. On the question of subject our first inquiry must be whether the heads represent real or ideal persons. For the former alternative it may be pointed out that their front hair is arranged exactly like that of Artemisia in the quadriga figure, that is, in three rows of formal curls, which seem at first sight imitated from the style of the sixth century B.C. But, on the other hand, the best preserved head, No. 44, on which alone any confident judgment can be founded, shows no individuality whatever in its features, which are rendered with a largeness and breadth characteristically ideal (fig. 5). A different, but hardly less weighty, objection to the supposition of portraiture arises from a somewhat singular coincidence. There is in the Museum a head, likewise broken from a statue, which was found by Mr. Pullan within the ruins of the Temple of Athene Polias at Priene, built in the time of Alexander, about fifteen years after the Mausoleum. This head, though rather smaller in scale, is in all other respects, in feature, in pseudo-archaic arrangement of the front hair, and in the cap which covers its top and back, almost a repetition of No. 44. Its attribution, therefore, if once determined, cannot fail to influence largely our interpretation of the three heads from the



Fig. 5. Marble Head from the Mausoleum at Halicarnassus.

Mausoleum. Was then the Priene head intended as a portrait or an ideal creation? To me the mere site of its discovery seems virtually irreconcileable with the former alternative. For no fourth century sculptor, recollecting the fate of Phidias, would be likely to introduce into a temple of Athene a portrait of any contemporary, male or female, without state authority;[a] and that authority can hardly in the present instance be supposed to have been obtained, as it was never conceded except for some great real or supposed public service, such as no woman at that period, especially no unmarried woman, as this from her head-dress apparently was, is likely to have rendered. But further, if the Priene head had represented a real person, the corresponding Mausoleum head must, from its close similarity, have in all probability represented the same person. Yet how could we then explain the reappearance in an independent Ionian city of a lady who had already figured at Halicarnassus in connection with the Carian dynasty? Such an occurrence seems to me incredible. For these combined reasons I conclude that the Priene head is not a portrait, but ideal; and the similar Mausoleum head, together with its two companions, will naturally follow the determination thus arrived at. It is not necessary to infer that the same ideal personages were intended to be represented both at Halicarnassus and Priene. There are many classes of such personages which have no distinctive character of feature known to us, Muses, Victories, Hours, Graces, and the whole cycle of divinities associated with special sites of land or water. If therefore, as is not unlikely, the same artist, or that artist and a pupil,[b] were employed in making ideal statues both at Halicarnassus and some fifteen years after at Priene, he might very well adopt a similar model for all his heads at both places, though no doubt he would introduce with the body of each figure some accessory distinguishing its proper individuality.

Assuming then that these three semi-colossal heads are ideal, the architectural

[a] Pausanias gives instances of states out of servility conferring this honour on living warriors or statesmen whom it was expedient to propitiate. Thus, after the battle of Ægos-Potami, the Ephesians placed statues of Lysander and certain of his comrades in the Temple of Artemis; and the Samians not merely erected a statue of Lysander in the *temenos* of Zeus at Olympia, but with characteristic versatility dedicated figures of Alcibiades, and afterwards of Conon and Timotheus, in their own Temple of Hera. Pausanius, vi. c. iii. 15.

[b] The latter of these alternatives seems to me more probable; for there is a considerable difference between the two compared heads in style of execution, however similar their subjects. The Mausoleum head is n a broader and grander, but less elaborate and refined, manner than the other.

scheme which I have proposed for the Mausoleum allows me to suggest an allocation of the statues to which they must have belonged, which will, I hope, not be thought improbable. An essential feature of that scheme is that what Pliny calls the "fronts" of the building were distinguished by porticoes crowned with pediments. Now, the apex and two ends of a Greek pediment were commonly accentuated by so-called acroterial statues. It can hardly be doubted that in a monument so highly adorned as the Mausoleum such decorations would not have been wanting; especially as one at least of the four eminent sculptors there employed is known to have executed statues for similar positions elsewhere. For in a Greek inscription found at Epidaurus Timotheus is named as the artist of the acroterial figures of a pediment for the local temple of Asclepius; and the discovery of three figures of Victories, evidently meant for *acroteria*, among the ruins of that temple, illustrates and confirms the inscription.[a] It is not, therefore, unreasonable to conjecture that these three ideal heads may have originally belonged to acroterial figures, and perhaps were the work of Timotheus. Their scale, being about equal to that of the two quadriga figures, fits them for an elevation not much inferior; an elevation, in this case, of from 90 to 100 feet above the spectator. If, as I suppose, there were porticoes both on the east and west fronts of the building, there must have been six statues for the *acroteria* of the two pediments; so that we must have in the Museum the heads, or portions of the heads, of just half the series.

In order, however, to justify more completely this allocation, six personages should be indicated, suitable for representation in such a position. This seems to me not impossible. Although ideal, yet, as parts of a great sepulchral monument, the figures should be in some sense historical. Now, next to the transfer of the seat of government from Mylassa to Halicarnassus, the most important achievement of internal policy we know of in the reign of Mausolus was his incorporation of the several Carian towns, originally occupied by Lelegian populations, in one united whole at his new metropolis. Of these towns there were at the time eight, but, as Strabo informs us on the authority of the historian Callisthenes, Syaggela and Myndus were excluded from the union by Mausolus, so that the number was reduced by him to six.[b] The most natural and appropriate recognition of this

[a] This inscription was mentioned by Mr. A. S. Murray in a lecture at the Royal Academy. *Builder*, 15 April, 1893.

[b] Τῶν ὀκτὼ πόλεων τὰς ἐξ Μαύσωλος εἰς μίαν τὴν Ἁλικαρνασσὸν συνήγαγεν, ὡς Καλλισθένης ἱστορεῖ. Συάγγελα δὲ καὶ Μύνδον διεφύλαξε. *Geographica*, xiii. c. i. 59. Strabo does not give the

event to a Greek mind would be the introduction of the local deities of the six incorporated towns in the great monument of the centralising power. The sculptural type of such deities would be exactly what we see in these female heads. At a later period they, or some of them, would perhaps have borne turreted crowns. But in the fourth century they would have worn simply the usual headgear of Greek maidens, such as the σάκκος seen in No. 44, and apparently also in No. 46, or the uncovered hair, as I incline to consider it, of No. 45. Their features would have been treated broadly, after that poetic type of which we have such exquisite examples in the contemporary coinage of the autonomous towns of Greece and Asia Minor. The minute ornamentation, however, which enhances the beauty of many of those numismatic masterpieces, the fibres of the netted κεκρύφαλος, the interwoven ears of corn, the jewelry in ears or on neck, would have been quite thrown away on sculptures to be seen only at an elevation of nearly 100 feet. The artist, therefore, as I read his motive, preferred to take a conventional licence, encircling each head with three rows of stiff symmetrical curls, which would have from below a broad effect of decorative arrangement in the hair, with a certain semblance of archaistic severity, which would not be inappropriate. The same motive, the subordination of the refinements of realistic minutiæ to broad architectonic conditions, may, I think, explain the similar treatment of hair adopted in the portrait statue of Artemisia; and I would venture also to suggest that, if such a treatment was found successful at Halicarnassus, it would not be unnatural that the artist, whether Timotheus or one of his followers, should afterwards repeat it at Priene, though probably neither the *acroteria* nor the tympana of the Temple of Athene were so elevated as those of the Mausoleum. Whether the six acroterial figures were represented sitting or standing, I know of no evidence to show. I have therefore felt free, in my restoration, to adopt the seated form, as better suited, in my opinion, for the suggested position.

Before leaving the three heads, however, it is right to refer to a doubt which might possibly be raised, whether the burnt head (No. 45) is equally suited with the other two for the interpretation here adopted. This head is described in the

names of the towns included by Mausolus. According to Pliny, v. 29, Alexander the Great annexed to Halicarnassus the following towns: Theangela, Sibda, Medmassa, Euranium, Pedasum, and Pelmessus. But Cramer suggests, and no doubt rightly, that Pliny has here confused Alexander with Mausolus, and that the towns he names are really the same as those referred to by Strabo. See Cramer, *Asia Minor*, ii. 180.

Museum *Guide*, on the authority of Sir Charles Newton, as "wearing a veil." Now I have been enabled, with the assisatnce of Mr. Murray, to examine this head carefully all round, on the top, sides, and back. The dilapidated state of its surface makes it, no doubt, difficult to say positively what attire or ornament, if any, was originally superposed upon the natural hair. But what certainly was not superposed was anything in the nature of a projecting or hanging fabric—such as may be seen, for example, in the veil of the Cnidian statue of Demeter in a neighbouring apartment. In the head under notice the whole ear, with its immediate surroundings, is entirely uncovered. The few remains of hair which the fire has left are equally traceable, or untraceable, over all parts; and the only suggestion of any kind of drapery above the remains of hair appears in two flat polished courses running down the thick tress which falls behind. But these two flat courses seem to me rather to mark the hanging ends of a *diadema* or fillet, such as young women gathered their hair in at the back of their heads, than a spreading continuous covering, like a veil.[a] However, it is really not necessary to dwell upon this point. For even if the reality of a veil were admitted, the proposed interpretation of the head would not necessarily be affected. Although undoubtedly it was more usual to represent local divinities with the distinctive head-dress of Greek maidens, the practice was by no means universal. The coins of Corcyra, Ambracia, Lilybæum, and other Greek towns and islands, supply sufficient illustrations of local divinities wearing the matronly veil.[b] I therefore feel no scruple in assigning the head No. 45, like the other two, to the series here suggested.

Of the remaining heads there is one[c] representing a bearded man in the prime of life, which has been thought to resemble the portraits of Alcibiades, as identified by Visconti.[d] Though any such likeness must be purely accidental, there can be no question that this head is meant for a portrait, and in no way ideal.

Another more youthful and quite beardless head, unfortunately much mutilated,[e] has been supposed by some to have been intended for Apollo, though it has

[a] An arrangement of hair very similar to the present may be seen on a vase published in Müller's *Denkmaler*, vol. i. pl. xlvi. 211a.

[b] A list of such coins is to be found in Rasche, *Lexicon universæ Rei Nummariæ*, tom. v. P. ii. p. 786. An interesting bas-relief, representing Corcyra as a veiled woman, joining alliance with the *demos* of Athens, is published by Duruy, *Histoire des Grecs*, iii. 22.

[c] No. 47 in the official *Guide*.

[d] *Iconographie Grecque*, i. pl. 16.

[e] No. 50.

no κρώβυλος, or other characteristic mark of that god; nor is it, perhaps, to be assumed as certain that its subject is male, not female.[a] It would not, in any case, accord with the views already expressed in the instances of Athene and of Zeus to assent to the attribution of this head to an Olympic deity of either sex. Indeed, I should not myself refer it to any ideal personage, of whatever rank. The features, particularly the mouth, have, to my eyes, an individuality sufficiently marked to indicate portraiture; and though the hair is thrown back in a manner which might, perhaps, be characterised as ideal, its treatment is, in fact, not very unlike that of the hair in the undisputed portrait of Mausolus, which is executed throughout in a style equally savouring of idealism. I should rather believe this head to represent some youthful and historical person connected with the Carian dynasty.

Amongst the other heads is one much smaller than the last mentioned, with a head-dress identified in the official *Guide* as the κυρβασία of a Persian satrap[b]; and another smaller still, wearing the ordinary Phrygian cap.[c]

The general conclusion resulting from my examination of all the heads broken from statues, except the three semi-colossal female ones just now referred to, is that the whole of them are remains of actual portraiture, not of ideal composition. Their varying scale shows that they must have belonged to different series, arranged, no doubt, in different parts of the building. The largest, the youthful head from a figure of doubtful sex (No. 50,) seems fitted for a statue of so-called "heroic" size, that is, about 7 or 8 feet high; and as several fragments of bodies and limbs on that scale are found in the collection, I think it not unlikely that they may all have belonged to an important series of portrait statues placed in some conspicuous part of the Pteron. What might have been the number, or about the number, of the statues so placed, is a point requiring much consideration. It would be easy to picture a host of imaginary figures filling all the vacant spaces in such a monument as the Mausoleum. But the quantity of remains discovered by the explorers which are of the heroic scale, and can be proved to belong to distinct figures, is by no means sufficient to justify so free a multiplication. Restraint is sometimes in the end more profitable than profusion; and I have thought it more likely to lead to a true result if we begin by

[a] A very competent judge, whom I have not received permission to name, but who examined the head with me, thought that it really represented some female personage. The absence of any kind of head-dress or ornament, however, seems to me against that view.

[b] No. 49.

[c] No. 51.

considering, from the analogy of any other known monument of at all similar character, what class of persons, and how many of them, would be likely to be represented in such a series as this. Now there is one building of which we have trustworthy historical record, and of whose actual structure, indeed, some remains still exist, which may, I think, be fairly referred to for such guidance as the question admits. This is the Philippeum, or monument to Philip of Macedon, in the Altis at Olympia. Though far inferior in scale to the Mausoleum, this edifice was not very dissimilar to it in motive,[a] nor altogether dissimilar in form, as it had, apparently, a kind of Pteron open to inspection from without, instead of an enclosed *cella*. It was erected in B.C. 338, only a few years after the Halicarnassian monument, and doubtless reflected the same artistic influence; for, what is the most marked link of connection between the two buildings, the Philippeum was adorned with sculptures solely from the hand of Leochares, one of the four artists who immortalised themselves in the competition at Halicarnassus. From the account of Pausanias it appears that the principal *eikon* was the chryselephantine statue of Philip, and this was surrounded by the figures of the four persons most nearly related to him, his father Amyntas, his mother Eurydice, his first and only lawful wife Olympias, and their only son Alexander.[b] Following this analogy, therefore, I suggest a family group of similar character for the Mausoleum. In a former paper I have shortly described the colossal *eikon* of Mausolus himself, which I have assumed as the central and dominant feature of the whole monument.[c] This figure I now suggest to have been attended, on the exterior of the building, by effigies of his father and mother, his sister-wife, and, as he had no son, his two brothers, and his younger sister. Two of these persons, as the reigning sovereigns during the construction of the Mausoleum, might fairly have been treated as more important in connection with it than the other four, namely, Artemisia, who began the work, and Idrieus, her immediate successor, under whom it was continued and probably completed. Accordingly, I would place the effigies of these two in more distinguished positions, filling niches in the

[a] The chief difference, or apparent difference, is that the Philippeum was not a sepulchral monument, but a species of trophy erected in Philip's lifetime, immediately after the victory at Chæronea. In the opinion of some archæologists, however, including apparently Sir C. Newton (*A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 35), the Mausoleum also was begun in the lifetime of the person in whose honour it was erected, though its subsequent magnificence might have been due to the piety of his widow.

[b] Pausanias, v. 20, § 5.

[c] *Archæologia*, liv. 353.

east and west fronts of the podium. The other four statues I would assign to the two porticoes of the Pteron. By referring to my revised plan and elevation given in the earlier part of this paper, it will be seen that there are two intercolumnar spaces in each portico, within or behind which such figures could stand without intercepting the view of any other sculptures. Immediately behind these spaces, therefore, I would place, on the east front, Hecatomnus and his wife, whose name is unknown to us, but whom I may suppose to have been the mother of all his five children; and on the west, Ada, the sister-wife and successor of Idrieus, and their youngest brother Pixodarus, who at the date of this monument may have been a loyal subject, though he afterwards usurped the throne at Halicarnassus, and drove Ada to take refuge in Alinda.

I will now suggest, though only conjecturally and subject to future correction, the possible appropriation of a few of the sculptural remains to some of the six persons just named. The large seated and headless figure,[a] which seems from the workmanship of the back to be specially fitted for a niche, I think might have been intended for Idrieus, and so have occupied the western niche of the podium. Its drapery has some remains of paint, and it may very likely have been distinguished originally by rich polychrome decoration. In the niche of the east front, over the door of entrance, I conjecture the statue of Artemisia herself to have been placed. There is no fragment in the collection which I could pretend to identify with this interesting subject; but I presume the figure would have been seated, like that of Idrieus, and coloured with at least equal richness. The bearded head,[b] if it had been somewhat larger, might possibly have belonged to the effigy of Hecatomnus, but as it seems to me hardly up to the "heroic" scale, I prefer to consign it to another class, to be noticed subsequently. The head which has been thought to resemble Apollo[c] might not improbably have been broken from the statue of the youthful Pixodarus, or, if we prefer to adopt the female attribution already referred to, from that of his sister Ada. Again, the draped torso, which Sir Charles Newton thought to have formed part of a female figure seven or eight feet high,[d] might originally have belonged to the effigy either of Ada in the western portico, or of her mother in the eastern.

These four figures of large scale, standing on pedestals just within the porticoes, would have been well seen from below, at about fifty feet above the spectator's eye. On the other hand, figures of only life-size, such as that to

[a] No. 40. [b] No. 47. [c] No. 50.

[d] No. 42. See *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 128.

which the head of a supposed satrap belonged,[a] would have looked insignificant from fifty feet below. I have therefore assigned statues of this smaller scale, of which there are several remains in the collection, to positions at the back of the two porticoes, against the pilasters enclosing the ambulatory, where they would be invisible from below, but where anyone, after ascending by one of the inner staircases, could inspect them closely. If it be allowable to build so large a conjecture upon so small a foundation as a single head, I would suggest that No. 49 might possibly have belonged to a series representing either the ancestors of the Carian family, who had ruled at Mylassa under the authority of the Persian sovereigns, or such contemporary satraps as had been in friendship or alliance with Mausolus, such as Ariobarzanes, Datames, or others in the adjoining provinces, with whom he had once joined in rebellion against the Great King. The head in a Phrygian cap,[b] however, is too small to have belonged to any statue in an insulated position. I follow, therefore, the suggestion in the Museum *Guide*, that it may be a remnant from "some large composition in relief." In a later paragraph I will explain my idea of the composition to which it may possibly have belonged.

It would be useless to attempt to assign places for all the remaining fragments of statuary in the collection. The plan of the Pteron in my restoration would offer many positions suitable for life-size or even smaller sculptures; and the entrance-hall in the basement might have accommodated many more. There is, however, one series of figures which, though mainly decorative, is too important to be passed over. These are the remains of lions, which, judging from the heads and limbs preserved, could hardly have been less, and were very likely more, than twenty in number. They are supposed to have been intended as guardians of the monument and its contents. In considering what might have been their original position, a certain peculiarity pervading the whole series is not to be overlooked. They have no variety of attitude whatever, so far at least as can be judged from their remaining parts. One and all, they stand steadily planted on all four paws, with their heads, if preserved, never looking straightforward, but always turned more or less to the right or left. Clearly, therefore, their artistic motive was not to show the vivacity and freedom of animal life, but the constraint of architectural symmetry. They must all have been arranged in balanced groups or pairs, half of them looking to the right and half to the left, and all presenting their sides to the spectator, in heraldic language, *statant gardant*. The position which seems

[a] No. 49. [b] No. 51.

to me best adapted to these conditions is the peristyle of the Pteron; not indeed actually between the columns, whose interspaces are not in my design sufficiently wide for the proper display of these figures, but immediately behind the intercolumnar openings, where they would stand quite free. I have accordingly represented six lions in each of the two lateral colonnades, as well as eight on the ground below, four at each end of the building. Two of these latter stand on each side of the entrance to the basement, like the golden lions beside the door on the funeral car of the great Alexander, keeping guard against intruders.[a]

We have now considered the principal remains of the Mausoleum, architectural and sculptural, which are to be seen in our Museum. Nevertheless, it can hardly be doubted that this sumptuous edifice had originally some other decorations of a similar character, but of which neither remnant nor record has survived to us. Of the four great sculptors to whose skill the celebrity of the whole monument was, as we are told, principally due, we cannot be said to have any artistic productions which can enable us to judge satisfactorily either of their respective powers or their distinctive manners. Their work, it is to be remembered, was executed in competition (*certatim*),[b] and so evenly balanced was the result, that even to Pliny's day it was disputed to which artist the preference should be awarded.[c] Surely, the works on which critics could carry on such a discussion for four centuries must have been in a position, and also on a scale, admitting of easy examination. Yet the most important of the sculptures known to us, with which the competitors relieved (*cælavere*) the exterior surfaces of the building, is the Amazon frieze, a work consisting of figures little more than 2 feet high, and fixed at an elevation of nearly 100 feet above the ground according to Mr. Pullan's restoration, and more than 80 feet according to mine. It may perhaps be said that the brilliancy of the Carian climate made everything clearer than we are accustomed to under our northern skies. But the brilliancy of the climate would not alter the laws of perspective. It would not make figures seen at a very acute angle, and much compressed in height by foreshortening, appear similar in their proportions to figures seen at an angle of even 45 degrees; nor would it prevent the projection of the lower parts of the relief cutting off in some places the view of the upper. All that could be judged of at such an elevation by the most keen-eyed observer would be the general decorative effect of the several series of

[a] Diodorus describes these as Λέοντες χρυσοῖ δεδορκότες πρὸς εἰσπορευομένους. xviii. 27.

[b] Vitruvius, lib. vii. præf. 8.

[c] "Hodieque certant manus." Pliny, lib. xxxvi. c. 5.

sculptures, not, certainly, the greater or less merits of their artistic execution, compared in detail. Again, although the Centaur frieze would, in my scheme of restoration, have been placed at a height quite favourable for criticism, yet the extent of that frieze, judged from its present remains, must have been too small for it to have been carried round each side of the building, whilst its well-worn subject was too unimportant, even to a colony of Trœzenian origin, to have been selected as the chief field of competition between such distinguished rivals. I conclude, therefore, that the required field for that purpose must have been found elsewhere; and no position would seem to me more appropriate than the four wide and conspicuous surfaces of the podium, or space between the graduated basement and the Pteron. That this part of the building was in some way adorned with sculpture has been the opinion of most, if not all, preceding critics. Mr. Falkener decorated it in his restoration with two friezes, one over the other, in imitation of the Xanthian heröon; Mr. Fergusson with one frieze; whilst Sir C. Newton agreed that some such ornamentation was probably there added, though he prudently abstained from a conjectural representation of it in his published plates. But then, of course, it will be asked, why have no remains of any friezes been found, except such as by common consent have been assigned to other parts of the building than the podium? This difficulty is not, in my opinion, insuperable. The four artists employed belonged to the Attic School. They must have been familiar with that typical example of sculptural decoration in the most refined age of art, the Erechtheum at Athens. Now the *zophoros* or frieze of that building is recorded in the Greek inscription of the so-called *Marmor Architectonicum Atheniense*, now in the British Museum, as being formed of Eleusinian stone, with figures, of what exact material is not stated, fastened on to its surface.[a] And this epigraphic testimony is confirmed by the fact that remains of the iron cramps used for holding on the figures are still, or lately were, to be seen on the frieze of the west front.[b] The motives for this peculiar arrangement were probably two: 1. To show bright marble groups relieved by a dark background, not of artificial and perishable pigment, but of natural and permanent colour; 2. To enable the sculptor to work his figures in the round, perhaps

[a] Ὁ Ἐλευσινιακὸς λίθος πρὸς ᾧ τὰ ζῶα. v. line 41-2 of this inscription, the whole of which is published (more correctly than in the work of its original discoverer, Chandler) in Rose's *Inscriptiones Græcæ Vetustissimæ*, 180—206, and in the later edition of Stuart's *Antiquities of Athens*, &c. ii. 64-6.

[b] Rose (quoting Wilkins), 187, N. 5; Leake, *Topography of Athens* (2nd edition), i. 577.

in his own studio, without the difficult and hazardous undercutting constantly required in pure alto-relievo. I suggest, therefore, that Scopas and his companions at Halicarnassus adopted this Athenian system, with due advantage, no doubt, in its own day, but with, unhappily, the same fatal result which occurred ultimately at the Erechtheum. On each of the four faces of the podium was inserted, as I suppose, a horizontal course of some dark stone, to which each artist attached by metal cramps figures in Parian marble of, perhaps, 4 or 5 feet high, a dimension which would suit the head in a Phrygian cap just now referred to.[a] But the evil fortune of the Erechtheum befel also the monument at Halicarnassus. The whole of the attached sculptures in time fell off, and were thus either destroyed, or, if any parts of them survived, were made incapable of future identification and readjustment; for isolated fragments, without the backgrounds which had originally held them in position, could give no clue to the composition of the groups of which they had themselves once formed parts.

As to the subject of these friezes nothing can be affirmed positively. But I think it most probable that, like the friezes which ran round the podium of the monument at Xanthus, they were historical or biographical. At the funeral games celebrated by Artemisia in honour of her husband, four rhetoricians, Theodectes, Isocrates, Theopompus, and Naucrates,[b] competed with each other in epideictic orations in praise of Mausolus. I do not infer from the mere coincidence in number that the subjects of the four panegyric orations and those of the four friezes were adjusted beforehand so as to correspond respectively with each other, as this might have inconveniently fettered the invention both of orators and sculptors. But generally, so much of harmony would have been secured in the representation of events and achievements in the life of the departed ruler as would have enabled the images presented by the artists to the eye to accord with the deeds commended by the rhetoricians to the ear. And thus the decorations suggested would have made the whole building a memorial at once national and dynastic; its two smaller friezes dealing with the ancestral and chiefly mythical traditions of the Carian people, whilst its larger and more important ones related to the contemporary deeds and fortunes of the family which then governed Halicarnassus.

There is one more form of statuary, however, largely practised by the Greeks, and therefore probably employed in the Mausoleum, but of which no examples

[a] No. 51.

[b] The authorities for these four names are given by Clinton, *Fasti Hellenici*, ii. 287.

are found in the Museum collection. This is figure-work in bronze. On the head of the quadriga horse are still to be seen remains of a headstall and reins in this metal; but the group the horse belonged to was buried in a heap of ruins, which Sir Charles Newton was satisfied had never been disturbed since the first overthrow of the monument. All other bronze-work, whether in statuary or minor decorations, would, if discovered in the Middle Ages or in the time of the Rhodian Knights, have inevitably been melted down for the sake of the metal. We cannot therefore reject, as incompatible with evidence, the belief that there may originally have been important works either in bronze, plain, gilded, or inlaid with more precious substances, or even perhaps in gold and ivory, in different parts of the building. In explaining my restoration of the architecture I have stated my opinion that the centre of the Pteron was occupied by a colossal *eikon* of Mausolus, supplying the artistic motive for all the surrounding work. Although the principal statue of the Philippeum at Olympia was chryselephantine, it may be doubted whether such costly materials would have been used on so large a scale as I have adopted for the central statue here. I am content, at any rate, to treat that statue as simply of bronze. The iconic figure I have inserted in my illustrative plates is designed after a Greek vase-painting; but that appropriation being necessarily without authority, it is not worth while to dwell on its details. I will merely say that I have here represented Mausolus in military costume, partly to vary the figure from that in the quadriga, and partly because I think that in the position intended the artistic effect requires the greatest attainable lightness of form. The material suggested favours this lightness. For a bronze statue may rest on its own legs alone, whilst a marble one would require to be sustained either by solidly-constructed drapery incompatible with armour, or by some accessory otherwise superfluous, to serve as a prop at the side.

But besides this central *eikon*, I think it most probable that other bronze figures, of a less important and more decorative character, would have once adorned the Mausoleum. The introduction of some such figures, in one material or another, seems to me specially justified, so far at least as they would conduce to the artistic completeness of the building, on the strength of a certain historical analogy which I will now explain. When Alexander invaded Asia, he is related to have been detained several months before Halicarnassus by the vigour of its defence. During this period the architect Deinocrates, and other artists in the train of the great Napoleon of Macedon, must have had ample opportunity for studying the most sumptuous specimen of sepulchral architecture known to the Greek world, which was conspicuous before their eyes. Not long after they were

called on to erect a funeral pyre for Hephæstion, which, in accordance with Alexander's character, was to transcend in magnificence all edifices designed for a purpose in anywise similar. It would be but natural for them, then, to refer to the much admired monument they had so lately been viewing, not exactly as a model, for their own work was designed for the use of a day, whilst the other was for centuries, but as a root of ideas, a type for developement in the more exuberant and ostentatious form which the cheap and perishable material of the intended structure admitted. The result was the stupendous pyre described by Diodorus,[a] a theatrical and tasteless exaggeration, as I venture to think, but not the less useful to us as a clue to some of the decorative features of the more soberly conceived building which I suggest to have been its prototype.

The pyre consisted of five stories or tiers, arranged in a quasi-pyramidal form. On the lowest tier were fixed two hundred and forty prows of quinqueremes, overlaid with gold, and all having two archers on their *epotides*, or platforms above. The second and third tiers had, respectively, fantastic imagery and the chase of wild animals represented upon them. The fourth had a golden, or, doubtless rather, a gilded Centauromachia, a subject identical with that of one of the Mausoleum friezes. On the fifth tier was a row of lions and bulls arranged alternately. In the part above these were introduced trophies of arms, partly Macedonian, partly of conquered barbarians. The whole was crowned with hollow figures of sirens, intended to contain musicians inside, though how their performances were to be conducted when the pyre was in flames Diodorus leaves to the imagination of his readers to conceive.[b]

Out of this gorgeous array I have selected two classes of embellishments which seem to me the most likely to have had their prototypes in the Mausoleum. They are those assigned to the highest and lowest tiers of the pyre, the trophies of armour above and the prows of galleys below, which together would have indicated intelligibly the conquests of Mausolus by land and sea. I have placed sixteen trophies over the two octostyle colonnades at the sides of the building, and a prow below each outer angle of those colonnades, supported on a pedestal rising through the graduated basement, and serving as a break in the long horizontal lines of its gradines. On each prow I have represented, in place of the two archers of Hephæstion's pyre, a standing figure of Victory, such as is com-

[a] Lib. xvii. c. 115.

[b] Cf. Quatremère de Quincy, *Monumens et ouvrages d'art antiques restitués*, and *Dictionnaire historique d'Architecture*, s.v. *Mausolée*; Donaldson, *Architectura Numismatica*, 177.

monly shown in that position on Greek coins of the period, and as may also be seen in the marble statue from Samothrace now in the Louvre Museum, which expresses the same idea. The whole of these decorations I suppose to have been of bronze, and therefore long since destroyed by the spoiler.

The remaining fragments of sculpture, whether actually preserved, or only reproduced conjecturally in my design, are too unimportant to be dwelt on here. I will therefore now close my comments on the subject, which have already extended to a greater length than I, or perhaps any of my readers, had originally contemplated.

*** In the discussion which followed the reading, on the 3rd December, 1896, of my objections to the suggested disseverance of the two principal statues from the quadriga, the President of the Society called attention to a most important element of the question, which had hardly, he thought, been sufficiently considered, namely, the precise part or parts of the site of the Mausoleum on which the sculptures referred to had been discovered. In the paper then just read, which is printed in the foregoing pages, I had purposely limited myself to a reply to Professor Gardner's arguments, quoted and examined seriatim; and as none of those arguments alluded to the question of site, I was led to omit all but a rather cursory reference to what I agree with the President in regarding as one of the most essential heads of the inquiry. Happily, it is one on which we possess the most clear and, as I think, decisive evidence from the highest authority. For in describing, some years after, the sculptures he had sent home from Budrum in H.M.S. "Gorgon," Sir Charles Newton says, "Of these, the most remarkable is the colossal statue generally considered to be that of Mausolus himself, which has been put together from sixty-five separate fragments, *all of which were found behind the marble wall*,"[a] that is, the ancient wall of the *peribolus*, on the north side of the Mausoleum, and but a few feet from it. This is the identical spot where the remains of the horses, the chariot-wheel, the steps of the pyramid, and the fragments of the statue of Artemisia, lay collected together, apparently undisturbed since the overthrow of the building. Now, throughout Sir C. Newton's description of the produce of each of the several localities explored on or near the excavated site, one important distinction is to be observed. All the remains of such miscellaneous works, architectural or sculptural, as must have decorated parts of the monument

[a] Newton, *Travels and Discoveries in the Levant*, ii. 114.

below the pyramidal roof were found scattered about promiscuously within or around the quadrangular area of the basement, having probably either fallen there originally during the earthquake, or been shifted thereto in some of the subsequent depredations. But not a single fragment of the upper pyramid, or of its crowning sculptural group (except a piece of one chariot-wheel and a hough joint of one of the four horses, which must have dropped off on the south side at the beginning of the earthquake), was found anywhere but on the spot which he describes as "behind the marble wall." It is obvious that, when the earthquake occurred, the whole summit of the pyramid, with its colossal *epithema*, was carried by one impulse over the north wall; and no part of the huge mass thus precipitated could have recoiled backwards, so as to alight within the intramural area. On the other hand, it is quite possible that sculptures falling from a lower stratum of the building, such as the peristyle of the Pteron, or the flank wall of the podium, though equally carried northwards by the seismic impulse, yet being from their diminished elevation less forcibly propelled, might have descended on the top of the north wall (where, in fact, a broken lion was found lying astride), and thence have bounded on to the same spot on which the gigantic group from above immediately fell. Or again, it is not improbable that some of the miscellaneous and smaller sculptures found on or near that prolific spot might have been cast there in some unrecorded clearance of the adjoining area, whether by Schlegelholt, De la Tourette's comrades, or the inhabitants of the neighbourhood. Either supposition would amply account for the circumstance on the strength of which Professor Gardner, in his reply to the President, sought to depreciate the importance of the evidence of site, namely, that a few small pieces of sculpture manifestly unconnected with the quadriga, chiefly heads of statues and parts of lions, were found with or near its remains. If, then, we mean to assert that the two semi-colossal figures are to be classed with these casual fragments, as having fallen not from the summit, but from some lower part of the building, we must be prepared to assume that, by some marvellous co-ordination of dynamic anomalies, the whole ponderous bulk of the male figure, which was found in sixty-five pieces, and the whole similar bulk of the female figure, which was found also in pieces, were diverted bodily from the area into which they would naturally have fallen, and carried together over the wall to a spot where they could mix themselves up undividedly with the remains of a group with which it is asserted that they had nothing whatever to do! It can hardly be necessary to discuss further the credibility of such a theory.

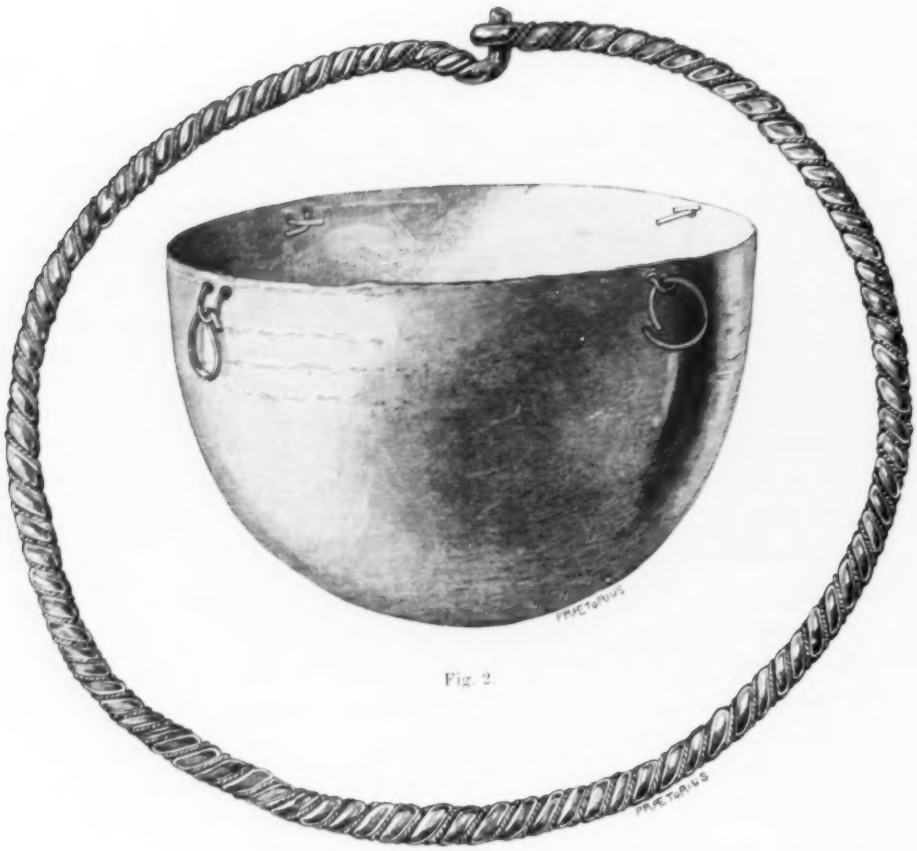


Fig. 2.

Fig. 3.

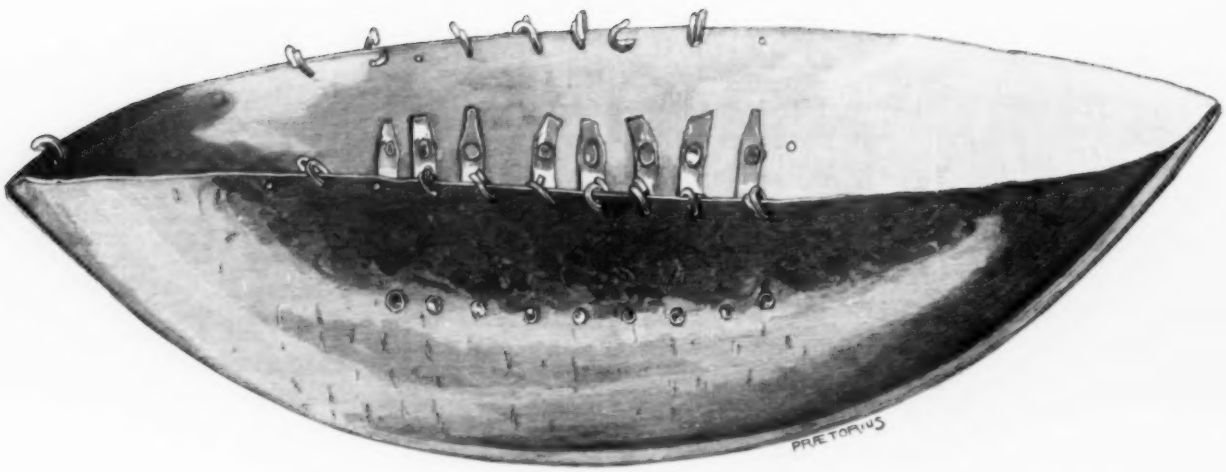


Fig. 1.

GOLD BOAT, BOWL, AND NECKLET FOUND IN IRELAND.

(Full size.)

XVII.—*On a votive deposit of Gold Objects found on the North-West Coast of Ireland.*
By ARTHUR J. EVANS, *Esq., M.A., F.S.A.*

Read 21st January, 1897.

A REMARKABLE hoard of gold objects was recently acquired by our Fellow Mr. Robert Day, of Cork, who has kindly allowed me to describe them and exhibit them to the Society. The objects were found together by a ploughman, who turned them up in subsoiling, and the ploughshare somewhat injured the boat and bowl. The spot where the treasure was found is near the sea on the north-west coast of Ireland.

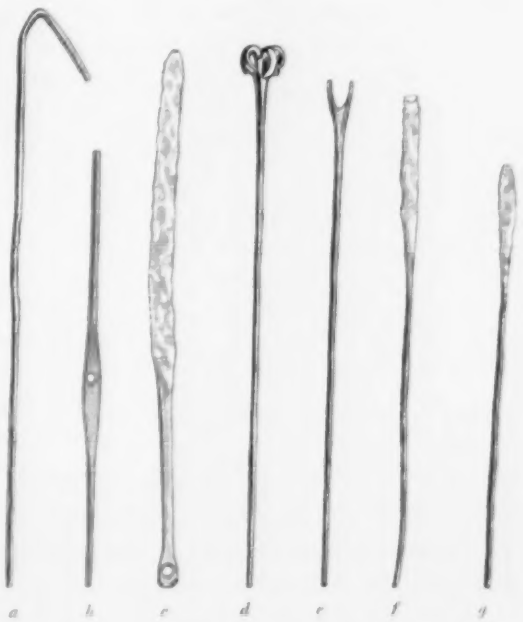


Fig. 1. Minor objects found with a votive Gold Boat on the north-west coast of Ireland. (Full size.)

The objects, which are all of gold, consist of a small boat with rowing benches and a place for a mast, miniature yards, oars, a grappling-iron, and other implements; a bowl, apparently intended for suspension from four rings; two chains of very fine fabric; two twisted gold neck-rings, one of them broken; and a hollow gold collar with *repoussé* work designs, beyond question the most magnificent object of its kind ever discovered. In the following account I have to acknowledge the kind assistance rendered me by Sir Wollaston Franks and Mr. C. H. Read.

The Boat.

The boat (Plate XXI. fig. 1) is $7\frac{1}{4}$ inches long by 3 inches broad. It is of pale gold, apparently approaching electrum and containing a fair proportion of silver, and it weighs 3 ozs. 5 dwts. It was provided with nine benches for rowers, of which the first is now wanting. The central one is slightly broader than the others, and has a hole in the middle through which originally the mast passed. Moveable wire rings, attached to the margin by means of a series of small holes, serve for the rowlocks, and the number of holes shows that there were originally nine of these on each side, giving two rowers to each bench, or eighteen in all. There is besides another moveable ring on the left side of the boat at the stern for the steering-oar or rudder. This (fig. 1*c*) and fifteen of the oars have been preserved. The oars are about $2\frac{3}{4}$ inches in length, and their blades are, with the exception of two, more or less lanceolate (fig. 1*g*). The two exceptional oars (fig. 1*f*) have a square, chisel-like end.

Besides the oars there were found a miniature grappling-iron (fig. 1*d*) with four hooks, a boat-hook (fig. 1*a*), and three forked implements (fig. 1*e*), which may either be fishing-spears or, more probably, forked barge-poles, such as are still in use. The mast is wanting, but the yard (fig. 1*b*) has been preserved, and there is also another small spar. A certain analogy with the steering-oar and the square-ended variety is presented by an ancient Irish oar-blade of black oak found at Toome Bar, on the lower Bann, and shown in fig. 2.[a]



Fig. 2 Irish oar-blade found at Toome Bar.

The boat itself is made of a single sheet of gold plate, which has, however, been slit and rejoined at the prow and stern. From its capacity and width it is impossible to regard it as a mere "dug out," though in form it unquestionably belongs to the genus "tub." It must, in spite of its rude appearance, represent a regularly built craft.

Some faint punch-marks are observable on its under-side, roughly arranged in vertical lines. These marks are so rough that they may, perhaps, be simply the result of the methodical hammering of the plate into shape. This regular arrangement suggests, however, the appearance of the ribs of a boat, the framework of which was covered with hides in the place of planks.

[a] From Wilde's *Catalogue*, etc. i. 204, fig. 188, No. 3. The Society is indebted to the Royal Irish Academy for the loan of this illustration.

There is a variety of evidence to show that sea-going vessels of this class were constructed by the ancient Irish and other Celtic populations. The following passage in the *Second Life of St. Brendan*[a] describes an ancient "currach" made in this way: "They made a very light barque, ribbed and fenced with timber, and covered it with raw cowhide . . . . They also fixed a tree in the midst of the barque and a sail and other things belonging to the steering of a boat." There are other instances in which the old Irish "currachs" are furnished with sail-yards, sails, and ropes, as well as oars.

Earlier evidence of the same kind is supplied by Festus Avienus's description of the Pictish vessels sewn with hides, and sea-going ships of composite construction with hides in place of planks were known to the ancient Britons. In this respect Cæsar himself took a lesson from the native shipbuilders, and on the occasion of a Spanish campaign[b] ordered his men to construct vessels on the British model, with keels and ribs of light timber, the rest of the hull being supplied by wicker-work covered with hides.

It is obvious that in the boat before us we have not so much to deal with an exact model or miniature reproduction as with a rough representation of the votive class. It would indeed be easy to find an almost perfect analogy among the small votive offerings of returned mariners suspended in the shrines of Roman Catholic countries. In such cases the work itself is often of the poorest kind, but although the local workman was incapable of giving anything more than a general representation of the whole, he is often excessively careful in introducing the proper complement of details, such as, in this case, the right number of oars, spars, and boat-hooks.

The Bowl.

The bowl or cup (Plate XXI. fig. 2) is formed of the same pale gold as the boat. It is beaten out of a single thin plate and weighs 1 oz. 5 dwts. 12 grs. It has four double perforations at equal distances round its rim, with a small wire linked through each, from which, in two cases, a larger twisted ring hangs down like the handle of a cauldron, and indeed the twisted handles are characteristic of some early iron cauldrons found in Ireland. Faint punch-marks roughly arranged in horizontal zones round the exterior of the bowl, if they be anything more than

[a] T. Wright, *Notes to Metrical Life of St. Brendan*; quoted by Miss Stokes, *Three Months in the Forests of France*, p. xxxvii. In the introduction to this work (p. xxxiv. *seqq.*) much interesting information regarding ancient Irish ships and boats is collected, to which I am indebted.

[b] Cæsar, *De Bello Civili*, l. c. 54, "Imperat militibus Cæsar ut naves faciant cuius generis eum superioribus annis usus Britanniæ docuerat. Carinæ primum et statumina ex levi materia fiebant; reliquum corpus navium viminibus contextum coriis integebatur."

tool-marks, might suggest a reminiscence of the rivetted plates of metal that formed the sides of the Early Iron-Age cauldrons. The fact, however, that the bowl had four rings, for presumable attachment to chains, instead of two, may be thought to militate against its identification with a cauldron, since the early examples of these that have been preserved have only two rings for suspension. Perhaps it should therefore be regarded as the scale of a measure. Mr. Day suggests that it was a lamp.

The Chains.

The larger chain (Plate XXII. fig. 1) consists of three separate strands, each formed of quadruple links joined together by what may be called the bolt ends of the necklace. It is 14¼ inches in length, of a dull gold, of different alloy from that of the boat and bowl, and it weighs 2 oz. 7 dwts. The fastening (*see* fig. 3) is a regular bolt, a double pin sliding in and out of a loop. The outside of this lock is ornamented with granules; some of them arranged in pyramids of three. The chain itself is of exquisite fabric, and the links are all spirally twisted.

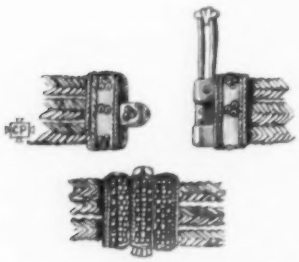


Fig. 3. Fastening of the larger Gold Chain or Necklace found in Ireland. The upper figure represents it open as seen from behind; the lower closed as seen in front. (Full size.)

The smaller chain (Plate XXII. fig. 2), which is 16½ inches in length, consists of a most complicated plait-work of eight wires. It weighs 6 dwts. 12 grs., and is of the same poor gold as the other. Its fastening (*see* fig. 4) is on the same principle.



Fig. 4. Fastening of the smaller Gold Chain found in Ireland. (Full size.)

The extraordinary fineness and the complicated character of these chains mark a very different style of goldsmith's work from that of the boat and bowl. Their civilised appearance and, perhaps, the quality of the gold recall certain chains of Greek and Greco-Roman fabric. A plait-work chain resembling the smaller of the two, but with a hook fastening and of even more delicate fabric, was found in a tomb at Curium, the principal interment in which belonged to the fifth century, B.C.[a] General Cesnola obtained a similar chain from the same site, and similar chains are known from Etruscan tombs of the fifth

[a] Tomb. No. 86, Turner Fund Exploration, British Museum. A few Mycenæan objects were found in the inner chamber, and in a separate position a "woman and pitcher" vase of Ptolemaic date, otherwise the deposit seems to have belonged to the best period of classical art in the chamber. With the chain was found a gold ring engraved with a female head, belonging to the second half of the fifth century B.C.

and sixth centuries before our era. Two electrum chains formed like the larger of the two Irish chains, one ending in a knob like the smaller example, occurred among the sixth century Greco-Scythian relics of the Vettersfelde find.[a] An earring with pearl pendants suspended from fine gold chains of the same kind was found in a tomb at Kalymnos,[b] and with it was another earring with a kind of openwork canopy showing the pyramidal granule ornament seen on the fastening of the larger of the two Irish chains. This double parallelism is significant, and in this case the form of the earrings seems to point to Roman Imperial times. Similar chains of late Ptolemaic or early Egypto-Roman fabric have been found at Alexandria.

The manufacture of fine chains was not, however, confined to the classical world. The use of such chains for suspension between a pair of *fibulæ*, one worn on each breast, is a well-known Celtic fashion. On the earlier class of Late-Celtic *fibulæ*, these chains are generally of simple and somewhat coarse construction, such as those from the Champagne cemeteries, dating from the third and fourth centuries B.C.[c] But there is evidence that the use of very fine silver chains for this and other similar purposes goes back among the Gaulish tribes of the Continent at least to about 200 B.C. They are found in "Middle La Tène" interments belonging to that time in the great cemetery recently excavated at Jezerine, in Bosnia.[d]

Silver chains of the same fine fabric were also found attached by rings to *fibulæ* of the same metal in a tomb of a Gaulish cemetery at Ornavasso, in the province of Turin.[e] They were there associated with a Gaulish silver coin[f] of a type disseminated in the Upper Rhone Valley and the neighbouring Alps,[g]

[a] A. Furtwängler, *Goldfund von Vettersfelde*, 10, Taf. ii. fig. 3.

[b] Brit. Mus. 56, 8-26, 722.

[c] See for example Morel's *La Champagne Souterraine*, pl. xv. 7; xxix. 27; xl. 4.

[d] See *Wissenschaftliche Mittheilungen aus Bosnien und der Herzegovina* (Vienna, 1895), iii. 128, figs. 336, 337, 340, and 137, fig. 372. In these cases they are in double or treble rows with terminal rings, some with pendent ornament attached.

[e] E. Bianchetti, *I sepolcreti di Ornavasso* (Turin, 1895), 227, 228, tav. x. 6—10.

[f] Cf. *op. cit.* tav. xiv. 16—18.

[g] Mommsen, *Die Nordetruskischen Alphabete*, Taf. i. 7, 8, pp. 202, 253; Meyer, *Beschreibung der in der Schweiz aufgefundenen Gallischen Münzen*, Taf. i. 1-5, pp. 1, 2. The legend of the Ornavasso coin is read DIKOI by Bianchetti. It seems probable, however, that it should be completed ᚹDIKOF = Prikou, a legend seen on gold coins of the same region, attributed by Mommsen to the Salassi. Mommsen (*Op. cit.* 253) regards the silver coins of this class as contemporary with the gold coins of the Salassi of the Val d' Aosta, which were struck on the Roman footing about 150 B.C., and the identity of inscription would be a corroboration of this view. The contents of the

representing a very late degeneration of the fourth century hemidrachms of Massalia. The date of the coin in question is about 150 B.C.

A pair of Celtic silver *fibulæ* connected with a chain of the same metal were also found in the hoard of Lauterach, near Bregenz, associated with Gaulish and Roman consular coins, the latest of which were struck in 80 B.C.[a]

Very fine silver chains of a somewhat later date have been found attached to silver *fibulæ* of British fabric. As an instance of this it may here be sufficient to mention the silver chain found, with two enamelled silver *fibulæ*, originally connected by it, at Chorley, in Lancashire, together with a hoard of Roman coins. These *fibulæ*, now in the British Museum, are of a type peculiar to Roman Britain and represent there a purely Celtic tradition.[b] The chain is very similar in fabric to the smaller of the two Irish specimens, and there is every warrant for supposing that it was from the hand of the same British craftsman, to whose skill the *fibulæ* to which it is attached were also due. There is then good reason to believe that such fine chains were made during this later period by British artificers. The date of the Chorley find is approximately fixed both by the type of the *fibulæ* themselves and the coins found with them, which range from Galba to Hadrian, from 68 to 138 A.D.

It thus appears that these fine chains were in use among the Celtic peoples during the first two centuries before and after our era. In Britain however the finest class is, as far as I am aware, confined to the latter half of this period, the chains attached to the earlier of British *fibulæ*, like one in the British Museum from the Warren, near Folkestone, which may date from the second century B.C., being, like those referred to from the Champagne cemeteries, of simpler and coarser construction.

In the case of the gold chains from the present hoard there is no evidence of the attachment of *fibulæ*. From the fact of their fastening with a clasp it is probable that they were worn round the neck, perhaps for the suspension of the twisted torques. The method of fastening by a pin, inserted through and thus locking the loops at the two ends of the chain, as in fig. 3, is remarkable. It is a common method of fastening in India and other Oriental countries at the present day.

The same method, however, was also known to classical goldsmiths. Mr. Hilton Price has kindly shown me two gold bracelets in his collection, from Alexandria,

Ornavasso tombs themselves show that already before that date the Roman *asses* and *denarii* had become the usual currency of this part of Cisalpine Gaul.

[a] Dr. S. Jenny, *Die Münzenfunde bei Lauterach. Mitth. d. Central Commission, &c.* 1881, p. 87 *seqq.*

[b] See *ante*, p. 185.

with similar fastenings. In one case the bracelet is locked by a divided pin precisely similar to that of our larger chain, and the plate of the clasp is adorned with pyramidal granules. Another bracelet from Alexandria of the same class in the collection of Sir John Evans shows a fastening on the same principle. These bracelets are ascribed to the latest Ptolemaic and Early Egypto-Roman times and belong to the first century before and after Christ. Fine gold chains closely resembling the specimens from Ireland have also been found with jewelry of this class, and, considering the extent of the parallelism shown by the occurrence in both cases of the double removable pin and the granular ornamentation of the clasp-plate, there arises a fair presumption that these objects may have been imported to the British Islands from Alexandria about the beginning of our era. In any case we obtain here a chronological fixed point of the greatest value.

The alternative supposition, indeed, that they were of British fabric closely imitated from Greco-Egyptian models at least deserves attention. The usage of such fine chains was an old Celtic tradition, and, as we have seen, silver chains comparable in workmanship to these gold examples have been found attached to *fibulæ* of distinctively British manufacture. It is true that this characteristic form of fastening is new in connexion with Celtic chains, but a very close parallel is apparently presented by the thin-plated jointed bracelets of Late Celtic fabric found in Scotland,[a] where the fastening seems to have resembled a hinge with a removeable pin.[b] There are certain features in the gold chains before us which also point to known Late-Celtic analogies. The fashion of wearing three chains together united at their ends is illustrated by examples from the great Jezerine cemetery already referred to. More than this, the socketing of the ends of three chains in a flat covering-plate, as seen in the larger of the Irish chains, finds an absolute parallel in the silver collar found at Æsica[c] with *fibulæ* belonging to the latter part of the second century of our era. In my account of the Æsica collar attention has been already called to certain features which seemed to point to the influence of Greco-Egyptian jewelry.[d]

Whether the chains before us should be regarded as Celtic, and in that case probably British, products, executed under the influence of classical models, or as

[a] *E. g.* one from Plunton castle, Kirkcudbrightshire. *Proceedings of the Society of Antiquaries of Scotland*, xv. 331, fig. 28.

[b] The pin is wanting, but the fastening is thus described, *loc. cit.*: "The armlet is formed of two curved plates of bronze, probably held together by a bronze pin or moveable joint to allow it to be opened and fixed on the forearm or wrist."

[c] See *ante*, p. 179, fig. 1.

[d] See *ante*, p. 180.

actual imports from an Alexandrian source does not affect the main value of the evidence that they supply. In any case, we must admit a very great conformity with certain characteristic features of the Late-Ptolemaic and Early Egypto-Roman jewels of the kind, and in any case we obtain an approximate chronological guide pointing to the beginning of our era.

The twisted Necklets.

Of the twisted necklets there were originally a pair, of one of which only about half is preserved. They are of very pure gold, and the perfect specimen, which is about 5 inches in diameter, weighs 3 oz. 7 dwt. 9 grs.[a] The characteristic feature of these necklets (Pl. XXI. fig. 3) is that a twisted wire has been wound round the spiral grooves of the torque itself. The use of twisted wire we have already seen exemplified among the other objects from this deposit in the handles of the bowl or miniature cauldron, and in the links of the larger chain.

This method of applying twisted wire to spiral ornaments is not infrequent in ancient jewelry. A very near parallel is supplied by a twisted gold arm-ring, without opening, wound round with beaded wire, found in one of the most characteristic Continental deposits of the Late-Celtic class, that of Waldalgesheim, near Bingen on the Rhine.[b] This deposit, which was of a sepulchral character, contained, amongst other imported objects, a bronze pail of Italo-Greek fabric,[c] belonging apparently to the third century B.C.

A spiral gold arm-ring of the same type, rolled round with twisted wire, was found at Hurstpierpoint in Sussex,[d] but in this case the circumstances of the find have not been handed down. Otherwise the procedure seems specially characteristic of the Viking period.

Necklets and armlets of this type, both of gold and silver, formed part of the great hoard found at Douglas in the Isle of Man, associated with Saxon coins which fix the date of the deposit between 925 and 975 A.D.[e] Twisted silver neck-rings coiled round with twisted wire are also found in Gothland[f] and elsewhere in Scandinavia in deposits dating from the same period.

[a] The fragmentary specimen weighs 1 oz. 10 dwt. 4 grs.

[b] *See* E. Aus'm Weerth, *Der Grabfund von Waldalgesheim* (Bonn, 1870), taf. i. fig. 4, p. 15; Lindenschmit, *Alterthümer*, &c. B. iii. H. i. T. I. i.

[c] *Op. cit.* taf. iii.

[d] In the British Museum, from the Payne Knight collection.

[e] The objects are in the British Museum.

[f] *Cf.* Montelius, *Les temps préhistoriques en Suède* (traduction S. Reinach, 1895), 254, fig. 355.

It is, however, to be observed that in the Douglas and Scandinavian examples, belonging to the Viking period, the fastening of the twisted torques is a hooked end caught in a long loop. In the Irish specimen, on the contrary, the hook is shorter, and caught in a mere eye, and this form of fastening is found in the case of a series of early Gaulish Torques from the Champagne cemeteries.[a]

The Collar.

The magnificent hollow gold collar or hollow torque[b] shown in Pl. XXII. fig. 3, is $7\frac{1}{2}$ inches in diameter, and the section of its tubular ring $1\frac{1}{8}$ inch. Apart from its fastening, it is formed of two *repoussé* plates of thin gold, folded over into a tubular form and soldered together. This delicate tube must undoubtedly have been backed and supported by a central core, which was probably formed, as in the case of another tubular torque found at Frasnes, in Belgium, by a circular iron rod, surrounded by hard cement. The ornament on both halves of the collar absolutely corresponds, and must have been executed in the same matrix, perhaps an engraved bar of bronze, like one used for beating out early Corinthian diadems, which is now in the Ashmolean Museum.

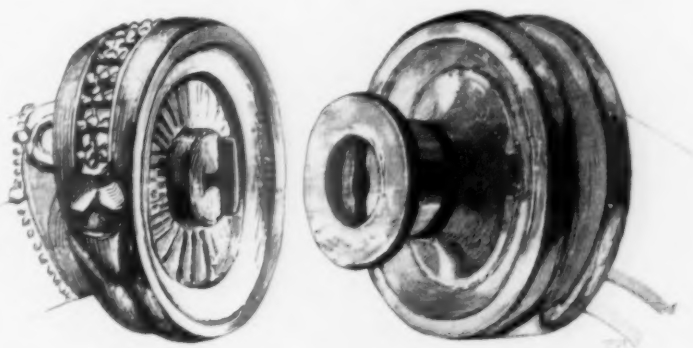


Fig. 5. Fastening of a Gold Collar found in Ireland. (Full size.)

The fastening of this collar is most remarkable. At one end is a fixed projection, like the cock of a tap, which catches in a slot at the other extremity (*see* fig. 5). This is so arranged that, in order to open the collar when thus locked, one-half of it has to be turned at right angles to the other. A section,

[a] E. G. Morel, *Champagne Souterraine*, pl. xxi. 3; xxii. 6.

[b] The classical word *torques* as applied to the neck ornaments of the ancient Gauls does not necessarily imply that they were always twisted, though that is the original and etymological sense of the word.

apparently about 2 inches in length, at the back of the collar on the opposite side to the fastening is unfortunately wanting, though rivet holes are seen at the end of the two tubes for attachment to it. A part of this, at least, must have been removeable in order to allow the one side of the hoop of the collar, when worn round the neck, to turn round enough to free its key from the key-hole of the other side, or at all events to allow it to turn enough to slip the collar off the neck.

So far as the key itself is concerned, a perfect analogy is presented by some gold torques found at Serviés-en-Val, near Carcassonne, in the territory, that is, of the Volcæ Tectosages.[a] The opening of these torques terminates on one side in a cock-like projection of the same form as that of the Irish specimen, but in this case, instead of turning round after insertion in an oblong slot, it fits into the upper part of a T-like opening, and is caught by sliding into the vertical line of the T.[b] The hoops of the torques in question were of solid twisted metal, and a very slight bend would in this case suffice to slide the key from its catch.



Fig. 6. Gold Torque found at Serviés-en-Val, near Carcassonne. (½ linear.)

The method of locking varies thus in the two cases, but the identical form of the key, and the general principle involved, supply good reasons against separating by too wide an interval the date of the production of the Irish torque from that of the Gaulish example. These were, as will be seen from fig. 6, representing the most ornate specimen from Serviés-en-Val, of a very different type. The solid twisted hoop is here fitted towards the opening with a series of foliated rings; in other examples the hoop ends in two plain disks. It will be at once

[a] *See* J.-P. Cros, "Mémoire sur des torques-cercles Gaulois trouvés à Serviés-en-Val (Aude)," in *Mémoires de la Société Archéologique du Midi de la France*, iv. 143 *seqq.* and pls. xvii. xviii. xix. whence the accompanying illustration (fig. 6) is reproduced. The torques are now in the museum at Toulouse.

[b] A certain analogy to this form of catch is presented by a gold twisted torque from Södermanland, Sweden, belonging to the Early Iron Age of Scandinavia (Montelius, *Antiquités Suédoises*, 103, fig. 343).

seen that the Serviés torques belong to a late period of Gaulish art. The foliated work in fact shows a certain approach to that on the back of some British or Romano-British *fibulæ* of the first two centuries of our era, of which those from Chorley are an example. It must, however, be borne in mind that Tolosa, the capital of the Volcæ Tectosages, in whose territory these massive gold torques were found, was already plundered of its celebrated hoards of gold by the Roman Consul Cæpio about 106 B.C., and already before Cæsar's time had been incorporated in the Roman *Provincia*. That the deposit of the hoard itself was connected with these events, and was actually a part of the *aurum Tolosanum*, is by no means improbable. In any case it would be difficult to bring down independent Gaulish work of this rich kind in that region later than the beginning of the first century B.C.



Fig 7. Plan of the fastening, and scheme of ornamentation of a Gold Collar found in Ireland. (½ linear.)

The scheme of the ornament on the Irish specimen before us can best be understood by the annexed illustration (fig. 7), which gives a faithful presentment of the design as originally executed on the flat surface of the plate. The decoration is produced by two methods: *repoussé* work, and a series of engraved lines filling the vacant spaces in the interstices of the raised ornaments. These fine lines are curved and form more or less concentric groups. They were in nearly all cases executed with a compass, and they illustrate the process by which the harmonious curves of *repoussé* ornament were first sketched out. This engraved work was executed after the *repoussé* design itself had been completed, and certain

straight lines seen in places along the axis of the collar and at right angles to it seem to have been drawn for the purpose of regulating the arrangement of the concentric groups. At the back of the collar on one side is seen a complete circle, with the point-mark of the compass in the middle.

This compass-work, which must have also been employed in the original design of the *repoussé* ornament itself, plays a very important part in Late-Celtic ornament. It is well known on the mirrors, sheaths, and other objects of metal-work, and has recently been found applied to wood-work decoration in the Glastonbury Lake Village, a fact which shows that the art had attained considerable development in our island before the Roman Conquest of that part of Britain. But the best illustration of compass-work designing is supplied by the objects discovered in the so-called tomb of Ollamh Fodhla. A number of bone flakes were there found ornamented with a quantity of compass-work figures, and iron compasses were found with them, showing that this primitive shelter had been used by a Celtic craftsman to practise this art of design. The compass-work on the gold collar itself displays great accuracy and proficiency, and is unique of its kind. It is used here to fill up between the interstices of the *repoussé* reliefs, where there is more usually found only a hatchwork of engraved lines.

The relief work is executed in a bold and brilliant style which marks it as belonging to the most flourishing period of Late-Celtic work. Among its most characteristic features are the spiral coils which terminate many of the sprays and recall certain helix shells. The outer whorls of these snail-like coils overhang the surface of the collar, and they could not therefore have been executed by a *repoussé* process. On minute examination they are seen to be each of a separate piece inserted in small circular holes cut out of the face of the collar and secured within by overlapping tags.

The nearest approach to these snail-like coils on Celtic metal work seems to be found on certain sprays of the *repoussé* bronze and enamelled shield from the River Witham.[a] This shield is perhaps slightly earlier than one of similar shape, but somewhat more elaborate design from the Thames[b] belonging to the latest Pre-Roman period of Southern Britain. That from the Witham may therefore be approximately referred to the Christian era.

The combination of engraved line work with *repoussé* reliefs is also found in some Late-British bronze work of the same period, as, for instance, the horned

[a] A. W. Franks, *Horæ Ferales*, pl. xv. p. 190.

[b] *Ibid.* pl. xvi. p. 190.

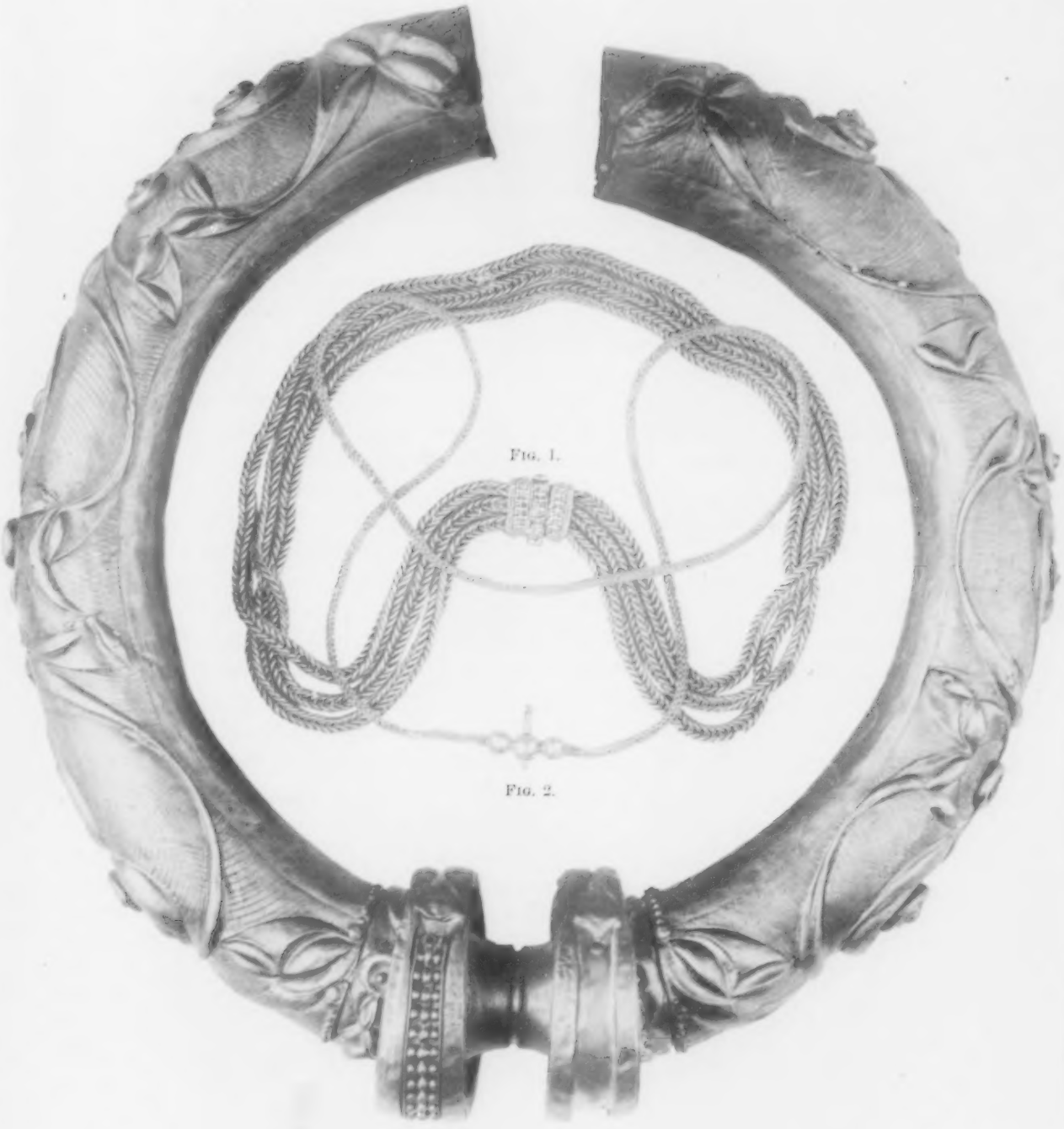


Fig. 1.

Fig. 2.

Fig. 3.

GOLD COLLAR AND CHAINS FOUND IN IRELAND.
(FULL SIZE.)

helmet found in the Thames at Waterloo Bridge and now in the British Museum. Among Irish antiquities the same procedure is found applied to the well-known class of bronze disks,[a] and the fine *repoussé* reliefs of these plates suggests more than one analogy with those of the gold collar.

The character of the relief and the design, which is of purely geometrical character, also recalls that of certain Celtic armlets mostly found in Scotland,[b] though one specimen was found near Newry, in Ireland.[c] The finest period of these overlaps the Roman occupation of Southern Britain, since a Roman *patella* was found in company with one of them at Stanhope, in Peebleshire.[d] The Æsica brooch, which may be claimed as a Caledonian fabric[e] representing a somewhat advanced stage of a similar class of design, apparently dates from the last half of the second century of our era.

There is then good warrant for believing that a bold pure style of Late-Celtic art was prolonged awhile among the Celtic population of the North and West of our islands after the Roman Conquest of Southern Britain. In other words the stage of culture which, shortly after the beginning of our era, is cut short over a large part of England by the rapid increase of Roman influence, culminating in actual conquest, finds its continuous development in Caledonia and Ireland.

On the margin near the front end of the collar before us are to be noted certain cupped bosses, containing in the centre of the cup a small globule. This latter feature recalls the similar cupped bosses with a central bead of red enamel seen on the remarkable bronze ornament in the Petrie Collection of the Museum of the Royal Irish Academy, and regarded by Miss Margaret Stokes as part of a radiated crown.[f] Radiated crowns characterize the coins of Roman emperors struck in Gaul and Britain during the last half of the third century of our era; a fact which, as Miss Stokes has observed, gives a clue to the date of the crown. The incipient use of enamel, which in Ireland appears later than in Britain, also argues a comparatively late date. On the other hand the somewhat more advanced and attenuated character of the decorative designs on this ornament tends to show that it belongs to a rather later period than the gold collar.

[a] Compare an example in the British Museum.

[b] See especially J. Alexander Smith, *Proceedings of the Society of Antiquaries of Scotland*, xv. 316 *seqq.*

[c] *Op. cit.* xv. 362, fig. 31.

[d] *Op. cit.* xv. 318, fig. 1.

[e] See *ante*, pp. 190 *seqq.*

[f] *Archaeologia*, xlvii. pl. xxii. and p. 473 *seqq.*; *Transactions of the Royal Irish Academy*, xxx. pl. xix. 2, and p. 290.

The free and noble decorative style of the collar before us, fitting on as it does to the latest style of Pre-Roman Britain, and representing its independent outgrowth, can best be referred to this immediately ensuing period, and, roughly speaking, to the first century of our era. The tendency of all Late-Celtic art was to reduce the naturalistic motives borrowed by it from the classical world to geometrical schemes. In its earliest phase, mostly represented by Continental finds, the borrowed elements are not yet perfectly assimilated, and Greek motives such as the confronted monsters the sphinxes or palmettes are often still distinguishable. But the decorative design of the present torque is of a purely geometrical character. There is no trace here either of animal or spray, and the Celtic spirit has triumphed in a beautiful abstraction of curving lines. This in itself is an evidence of a comparatively late date.

Yet the whole history of Late-Celtic art instructs us that this geometrical scheme, elaborate as it is, was originally based on ornaments of a naturalistic kind. The elements out of which it was evolved are in fact clearly shown by another collar, the tubular construction of which shows that it belongs to the same family as the Irish example, though to an earlier generation. I refer to the hollow gold collar, containing a core of hard cement with a central iron hoop, already referred to, found at Frasnes, in Belgium, together with uninscribed coins of ancient Belgic type dating from about 80 B.C.[a] In this case bull's heads are seen immediately beneath the terminal disks, and the raised S-like sprays which also adorn the collar may be taken to represent degenerations of the Greek palmette ornament which is here absorbed in a very favourite geometrical figure of Gaulish art. On an earlier gold bracelet in the museum at Breslau, which has an important bearing on the evolution of this class of Celtic collars, the palmette which springs from the terminal disks is seen in a state of transition, half decomposed into geometrical coils. A further transitional stage is illustrated by a torque from the Waldalgesheim find.

If in the other direction we turn from the Frasnes collar to the Irish example before us we see that the last naturalistic traces, exemplified in the former case by the the bull's head, have entirely vanished, while the spiral curves have attained a free and much more elaborate development, further removed from the mere balanced S's of the earlier Gaulish tradition. In other words the Irish collar seems to belong to a distinctly later period than that from the Belgian hoard.

[a] J. Evans, "On some gold ornaments and Gaulish coins found together at Frasnes in Belgium," *Numismatic Chronicle*, N.S. iv. pl. v. p. 96 *seqq.*

A certain analogy to the newly-discovered collar is presented by a tubular gold collar in the collection of the Royal Irish Academy reproduced in fig. 8. Some of the decorative scrolls on the hoop terminating in a coil distinctly resemble those of the Ulster example, and though the *repoussé* work cannot compare with it for boldness and beauty of design we have here a distinct indication that both were made in Ireland. Whether the curious interlacing coils which form the section opposite the opening throw any light on the missing part of the present specimen must remain a moot point.



Fig. 8. Gold collar in the collection of the Royal Irish Academy. (½ linear.)

General Conclusions.

The great variety in character of the objects, which, according to the account given, were found together in the present hoard, might suggest the conclusion either that it contained relics of different periods or that the treasure itself had been collected from more than one source by its original modern possessor. With regard to the last possibility Mr. Robert Day has made most careful investigations and has completely satisfied himself as to the *bonâ fide* character of the find, and that all the objects were brought to light at the same place and at the same time. The farmer on whose land the find was made, and with whom he is personally acquainted, is a shrewd hard-headed Presbyterian upon whose word Mr. Day could thoroughly rely, and who was most precise about the facts. The fine brown clay with which all the objects were more or less covered also bore out his statement as to their place of discovery.

But, if in view of this evidence we must regard the objects as all belonging to one hoard, is it possible that the hoard itself contains objects of different periods? I must confess that on first examining them this possibility occurred to me. The hoard itself is clearly divided into three groups, each formed of a

different alloy of gold; the boat and bowl are of pale gold, the chains of gold of a somewhat dull hue, the collar and twisted rings of bright pure metal.

It has been suggested, indeed, in explanation of the deposit that we have here the hoard of some Viking who had plundered earlier Celtic graves. This theory has certainly the charm of romance; it bears, however, an unfortunate resemblance to that started on the first discovery of the Mycenæan treasures. It was seen that the decoration upon some of the relics recalled certain Celtic motives, and the theory was accordingly put forward that the graves were those of Gaulish invaders of Greece who had robbed pre-historic tombs and buried with their dead chieftains a mixed assortment of objects belonging to widely different ages.

But it is now known that the contents of the Mycenæan tombs, with the exception of a few objects of foreign fabric, were the work of the same race and that all belonged to the same period, namely the pre-historic age of Greece. It must be said at once that the balance of probability is very largely against any explanation of an ancient treasure which involves such far-fetched hypotheses. Unless it can first be proved that the objects from the Irish hoard belonged to different periods, such a theory is at least premature.

The detailed examination of the relics found has led me to the conclusion that there is at least no necessity for believing that they were the work of different ages. The rude character of the boat and bowl may well be explained by the analogy already invoked of votive objects manufactured in modern times. The jewelry found in tombs and made specially for the use of the departed is often of paler gold and of flimsy fabric when compared with other objects, exhumed from the same grave, which had been the property of the deceased in his lifetime. The same law may well hold good in the case of a votive deposit, such as this appears to have been, buried in honour of a god.

There is no reason why the eighteen-oared vessel here represented should be of Scandinavian origin or belong to the Viking period. The reproduction is indeed too rude to supply very definite evidence as to details; so far as it goes, however, it tends to show considerable divergence from Scandinavian models. The great proportional width of our vessel recalls rather the primitive coracles and currachs than the slender proportions of Northern boats of the same calibre. The rowlocks here are moveable rings, not the fixed horn-like prongs such as are found in the Nydam boat and still survive in the river-craft of Norway and Finland. The oars and rudder have the same general outline, but primitive Irish oars still exist of much the same form, and an elongated example

of considerable antiquity with a straight end answering to one of the types of oar represented in the present boat has already been figured above.

The early maritime intercourse not only between Ireland and Britain, but with the Iberic coasts and Scandinavia, which goes back well into the Bronze Age, shows that the art of navigation was well advanced in these islands at a very early period. In Cæsar's time the Veneti of the opposite coast of Gaul had an ocean-going fleet, and already relied on sails in place of oars. The apparent indication that the vessel of which we have the miniature reproduction had hide-covered sides is, as already shown,[a] of special importance in connection with a form of sailing-vessel in use among the ancient Britons, who also possessed ocean-going ships, and were able, indeed, on occasion, to detach a Channel Squadron to the aid of their hard-pressed kinsmen in Western Gaul. That we have here a ship with mast and yards points rather to early Celtic usage than to that of the Norsemen, who, accustomed to fiord navigation and the more confined waters of the Baltic, trusted rather to oars than sails.

That the gold chains were made out of Ireland is probable enough, but abundant evidence has been brought forward to show that during the first two centuries before and after our era fine chains of this character were a Celtic speciality. It is possible that the chains in question were made in Britain; the peculiar form of fastening has indeed been compared with that of Caledonian bracelets, just as the three chains socketed one above the other in a flat terminal receptacle recalls the triple-chained collar with similar terminations found with the Æsica brooches. On the other hand the close correspondence of the fastening with that of Alexandrian jewels of the latest Ptolemaic and early Roman period makes it not improbable that we have here examples of objects imported from a Greco-Egyptian source about the beginning of our era. As far as I am aware no fine chains of this character have been found in deposits of the Viking age.

Of the remaining gold ornaments the twisted gold torques wound round with twisted wire undoubtedly recalled certain Scandinavian types and others of the Viking period found at Douglas in the Isle of Man. But it has been shown that the type is also Celtic and the form of the catch, moreover, agrees better with that of early Gaulish torques than with the later Scandinavian examples.

There is at least no question as to the indigenous Celtic character of the most important relic contained in the Ulster hoard. The hollow gold collar, with its bold *repoussé* designs, is undoubtedly an ancient Irish fabric, and is at the same

[a] See above, p. 393.

time the finest example existing of this class of gold-work. On grounds of style and from certain details of ornament it has been referred above to the first century of our era. Its peculiar method of locking indeed closely recalls that of the "Tolosan" gold torques of a century earlier, a circumstance which makes it improbable that the Ulster collar comes down to a much later date.

But, as has been already demonstrated, there is nothing inconsistent between this approximate chronology and the indications of date supplied by other objects of the hoard, such as the fine chains.

The conclusion then to which we are led by these various considerations is that the treasure was, as the recorded circumstances of the find indicate, deposited at the same place and time, probably in the first century of our era. The custom of making votive deposits was very widespread in the Early Iron Age, and in the Northern countries such hoards were often buried on the borders of lakes and pools, or actually beneath their waters. In the present case the deposit was made close to the sea-shore, on a rocky part of the coast liable to shipwrecks, and from the votive ship and its furniture, there can be little doubt that it was a thank-offering dedicated by some ancient Irish sea-king, who had escaped from the perils of the waves, to a marine divinity. This was perhaps the Celtic Neptune, Nuada Necht, the British Nuđ or Nodens, whose name, in the later form of Lûđ, is connected with the port of London, and still survives in Ludgate Hill.[a] The Temple of Nodens at Lydney, which also preserves his name, has produced representations of Tritons and sea-monsters, and the God himself in a chariot drawn by four horses.[b]

[a] *See* J. Rhys, *Lectures on Celtic Heathendom*, 125 *seqq.* London itself was the Welsh Caer Lûđ.

[b] *See* W. H. Bathurst and C. W. King, *Roman Antiquities at Lydney Park, Gloucestershire.*

XVIII.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1896. *By* W. H. St. John Hope, *Esq.*, *M.A.*

Read April 8th, 1897.

The report which I have the honour of submitting to the Society, on behalf of the Executive Committee of the Silchester Excavation Fund, of the discoveries made during the year 1896, is also the record of the systematic excavation of the site by the Committee for the seventh successive season.

The excavations were resumed on 1st May under the direction of Mr. Herbert Jones, to whom we again owe a deep debt of gratitude for giving his time and services so freely for the three months before harvest during which the work was carried on. The operations after harvest were chiefly carried out by Mr. Mill Stephenson, and brought to an end on the 26th of October.

The area selected for excavation is on the west side of the city, immediately to the south of the two *insulæ*, XIII. and XIV., which were examined in 1895. It also contains two *insulæ*, which we have numbered XV. and XVI. They extend eastward from the city wall on the west as far as *Insula* III., which was excavated in 1891, and contain in all about $3\frac{1}{2}$ acres.

Although the season's work did not include the discovery of any buildings of such importance as the two great houses found in 1895 in *Insula* XIV., the result was on the whole quite satisfactory, and, as usual, ended in some curious and totally unexpected discoveries.

It will be convenient to begin with an account of *Insula* XV.

This was bounded by streets on the north, east, and south sides, and on the west by the city wall and its bank. It measured about 300 feet from west to east, reckoning from the base of the bank, and about 260 feet from north to south; we did not however find any traces of a definite boundary along the southern margin.

As will be seen from the plan (Plate XXIII.), the excavations brought to light within the *insula* the foundations of two houses and four blocks of buildings.

The first of these, House No. 1, was situated at the north-west corner of the *insula*. It was 81 feet long and 34 feet wide, and stood nearly due north and south, making a small angle with the street on which its northern end abutted. The house was of the corridor type, and contained on the ground floor a row of four large chambers (1-4), each about 20 feet in breadth,[a] with a connecting corridor 7 feet wide on the eastern side. At the north-east corner of the building were uncovered the gravel foundations of some other walls belonging to it. Nothing definite could be made out from them, but it is probable that they were connected with a staircase to an upper story. The remains of the building had been so ruined that no traces of the floors were left, and the lines of the walls were mostly indicated by the gravel foundations only. On the west side, however, and in part along the division walls, the rough ironstone blocks of which the footings were composed remained in place.

At the north end, just outside the corridor, was found a large pit 9 feet in diameter, but it did not yield anything of special interest.

A little further to the east, and just clear of the house, was a fragment of one of the long flues of which so many examples have been found in this quarter of the city.

About 50 feet due south of House No. 1 is a small isolated rectangular building, Block I, measuring internally 12 feet from north to south, and about 14 feet from east to west.[b] Similar detached chambers, it will be remembered, have been met with in other *insulæ* on this side of the city.

A little to the east of Block I. the excavations disclosed the gravel foundations of a large house, extending from the middle of the *insula* southwards nearly as far as the street there. This House No. 2 resembles in plan House No. 3 in *Insula* IX., and House No. 3 in *Insula* VII. The main part of it, which was 98 feet long and 41 feet broad, stood nearly due north and south, but formed a small angle with the line of the street. It consisted of a row of four chambers (1, 2, 3, and 5) and a cross passage (4), placed between two corridors (6, 6 and 7, 7). The western corridor (6), which was also the outer, had, as usual, been subdivided by cross walls. The eastern corridor (7) was 7 feet 3 inches wide. At its southern end it returned eastwards along the street front for 12 feet, with a diminished width of 5 feet 9 inches, as far as a rectangular chamber (8), 13 feet 9 inches square, which

[a] These chambers were of the following dimensions: (1) 16 feet 3 inches by 19 feet 6 inches; (2) 14 feet by 20 feet; (3) 16 feet 9 inches by 20 feet 3 inches; (4) 20 feet 8 inches by 20 feet 4 inches. The foundations averaged 2 feet in thickness.

[b] The south wall was 19½ inches and the west wall 21½ inches thick; of the other walls only the gravel foundation remained.

terminated the house in that direction. Similar chambers in a like situation occur in the two houses whose similarity in plan to that under notice has already been mentioned, also in House No. 2, *Insula* XIV., and House No. 1, *Insula* VIII. In this instance it no doubt formed a vestibule, and, like most of the parallel examples, it had on each side a projecting foundation towards the street, probably for attached columns supporting an entablature and pediment. The entrance to the house would thus be one of some architectural pretensions. About 34 feet from the southern end of the eastern corridor were traces of the foundation of a cross wall. A few feet further north there projected eastwards from the corridor a chamber (9) 15 feet square; it perhaps served as a *tablinum*.[a] From this apartment the corridor wall extended northwards for 35 feet, and then abruptly ceased.

Beyond this point a considerable wing had evidently been added to the house. It stood east and west, and measured 57 feet in length by 41 feet in breadth from north to south. So far as it could be traced, for only its gravel foundations were left, it contained two large apartments (11 and 12) of unequal size on the north, with a broad corridor-like room (10) extending their whole length on the south. Such very large rooms, there can be little doubt, were subdivided by partitions, and used as store-rooms, or for the accommodation of the slaves.

Close to the south-east angle of this wing were the remains of one of the circular hearths of which so many have been uncovered in this quarter of the city.

As in House No. 1, all the floors in this building had been utterly destroyed; a few coarse red *tesseræ*, found at the southern end of the eastern corridor and in a pit beneath it, being the only indication how any portion was paved.[b]

To the east of House No. 2 and abutting on the street dividing *Insulæ* XV. and XVI. was a building we have called Block II. It extended inwards at right angles from the street for 57 feet, and had a total breadth of 31½ feet. It was situated about 38 feet north of the supposed southern margin of the *insula*. This block was divided longitudinally by a wall into two unequal parts: one 18 feet wide, the other only 7 feet. The former was perhaps a barn, and the latter a pentise; but about 14 feet seems to have been cut off its western end by a

[a] A chamber of like character and in a similar position to this was found in House No. 1, *Insula* VIII.

[b] The dimensions of the various divisions of this house are as follows: (1) 34 feet 6 inches by 17 feet 6 inches; (2) 13 feet 3 inches by 17 feet 6 inches; (3) 15 feet 2 inches by 17 feet 6 inches; (4) 6 feet by 17 feet; (5) 17 feet by 17 feet 6 inches; (8) 14 feet by 13 feet 6 inches; (9) 14 feet 6 inches by 14 feet 9 inches; (10) 15 feet 6 inches by 54 feet; (11) 19 feet 6 inches by 31 feet 6 inches; (12) 19 feet 3 inches by 20 feet.

cross wall to form a small chamber. The walls of the building varied in thickness from 2 feet to 2 feet 3 inches.

Just outside the south-west angle was uncovered the fairly perfect base of a long flue.

To the north of Block II. and partly overlaid by its north-west angle, were the foundations of an older building, lying at a somewhat lower level, as is commonly the case with all the earlier edifices at *Callera*. This structure, Block III., formed a considerable angle with the street, its general direction being nearly north-east and south-west. It was 49 feet long by 26 feet wide, and consisted of four chambers (1-4), with an external corridor, about 6 feet wide, along the east side, which returned across the south end with an increased width of 9 feet. The west wall was 1 foot 9 inches thick and built of flintwork of poor character. The other main walls were only 12 or 15 inches in thickness, and were chiefly constructed of tiles. The subdivisions were also built for the most part of pieces of tile, and were from 9 inches to 1 foot thick. The light construction of these foundations is strongly suggestive of the building having been almost wholly, if not entirely, constructed of timber, with subdivisions of lath and plaster or stud-work. The four chambers were all connected by doorways, and the largest or southernmost division (1) had doorways with stone sills opening into the corridor on its east and south sides. A break in the east wall of Chamber 3 may represent a similar doorway there from the corridor, and a like break in the north wall of Chamber 4 probably marks the entrance to the building from without. The arrangement of this structure, it will be seen, is not unlike that of Block VI., *Insula* X. The whole of its floors appear to have been of gravel only.[a]

A few feet to the north of Block III. are the gravel foundations of Block IV. This was a nearly square building, measuring internally about 16 feet by 18½ feet, but its sides were all unequal, as was the thickness of its walls.[b] The north wall was prolonged eastwards in the direction of the street there for 22 feet, but stopped abruptly over the centre of a pit just before reaching it. Possibly this block and its attached wall formed part of a building of which no other traces are left. About 25 feet to the south were some remains of the base of a flue; this had, however, been laid over an old filled-up rubbish pit, into which it

[a] The following are the dimensions of the divisions of this building: (1) 11 feet 6 inches by 15 feet 6 inches; (2) 9 feet 8 inches by 10 feet; (3) 9 feet 8 inches by 4 feet 10½ inches; (4) 14 feet 4 inches by 15 feet 8 inches.

[b] Its dimensions were: north side, 16 feet 5 inches; east side, 18 feet 3 inches; south side, 15 feet 9 inches; west side, 19 feet. The north wall was 2 feet 3 inches thick; the east, 1 foot 9 inches; the south and west, 2 feet.

had eventually, for the most part, subsided, and so been destroyed. The only other traces of structures in the *insula* occurred at the north-east angle, where a piece of tiling in place and some shattered remains near appeared to indicate the site of another hearth.

From the nature of the buildings and their accessories found in *Insula* XV. there can be no doubt that it formed part of the extensive area in the western division of the city, which appears to have been devoted to dye-works. As in *Insulæ* IX. X. XI. XII. and XIII. there are the remains of long flues and circular hearths, the same detached square constructions, and other edifices of which examples have been found in the *insulæ* mentioned. A reference to the plan (Plate XXIII.) will also show that a considerable area in the northern half of the *insula* was not only free from all traces of buildings, etc. but it did not contain any wells or pits. It is therefore not improbable that this formed a bleaching ground, like the corresponding open areas in the other *insulæ* noted.

The number of pits found in *Insula* XV. was comparatively small, as was also the case in the other *insulæ* devoted to dyeing. We actually met with twenty-five, but fully half of these were under walls or within buildings. They were for the most part shallow, and contained little or nothing of interest.

On the eastern margin, not far from Block IV., were two wells. The northernmost was 18 feet deep, and lined with flints, which rested at the bottom upon a framed wooden construction, of a character similar to those found at Silchester in previous years. In the present example the framing was 3 feet 6 inches in depth and 2 feet 6 inches square internally. The strata through which the well was sunk were as follows:

Vegetable mould . . .	4 feet
Gravel	9 feet
Sand	5 feet
	18 feet

The bottom of the well was clay.

The second well was 50 feet to the south of the other, and was 17 feet deep, with a clay bottom. It was sunk through similar strata, but with the following variations in thickness:

Vegetable mould . . .	5 feet
Gravel	2 feet
Sand	10 feet
	17 feet

The flint lining of this well had also rested upon a wooden construction, but in this case it took the form of a tub. A similar tub, it may be remembered, was found in 1894 in a well in House No. 3, *Insula* IX.,[a] and two tubs, one above the other, in a deep well in *Insula* XIV. in 1895.[b] We therefore decided that the next example which occurred should be extracted, if possible, and preserved with the other Silchester relics as a Romano-British tub. The desired opportunity arose in the present instance, and under the superintendence of Mr. Stephenson and Mr. Davis the tub, after some trouble, was successfully brought to the surface, and now rests before you. It was probably originally 5 feet deep, but through the decay of the upper ends of the staves is now reduced to 4 feet. The internal diameter at the base is 3 feet. The staves, which are of fir, are twenty-six in number, and vary from 4 to 5 inches in breadth, but gradually diminished in width from the centre to the ends. They were banded outside at intervals of 9 inches with wooden hoops about 2 inches wide, disposed in pairs, but these were in too decayed a state to allow of their being preserved. In several places there are branded on the staves the letters HERM, the meaning of which is uncertain. At a height of 19 inches from the lower edge four of the staves are pierced with a round hole $\frac{3}{4}$ inch in diameter, disposed at equal distances apart. The object of these is not very obvious. The tub rested on a massive frame formed of four pieces of oak, which were also brought with it to the surface.

Such tubs as these found at Silchester are clearly analogous to the "drum curbs" still used in this and other countries when sinking wells through loose strata, the object being of course to prevent danger to the well-sinker through the falling in of the sides. In the Isle of Wight for instance,[c] where they are largely used, these "well curbs," as they are there called, are wooden cylinders with an inside rib round the top and bottom, and, if the curb is large, round the middle also. They are generally of elm, and of course vary in size with the diameter of the well and the nature of the soil. The well is first excavated down to the beginning of the loose strata, and then the curb is lowered into it. Courses of brickwork tightly wedged in a circle are next built round on the top rib of the curb, and so continued up to the top of the well. The earth is then alternately

[a] *Archaeologia*, liv. 447.

[b] In our account of the finding of these, at p. 245 *ante*, the well with a tub found in *Insula* IX. is wrongly described as being in House No. 1 instead of House No. 3.

[c] I am indebted to Mr. A. H. Estcourt, Deputy Governor of the Isle of Wight, for this information, and to Mr. Henry Laver, F.S.A., for a similar account of well-sinking as practised in Essex. I have also to thank my friend Lieut.-Col. Beamish, R.E., F.S.A., for other information on the subject.

excavated within and from under the edge of the curb, which sinks down each time with the weight of the brickwork. This is of course constantly built up to the top again. The process is continued either until water is reached, or until the amount of friction on the brick cylinder becomes so great as to stop the descent of it, when the sinking of the well has to be continued on another plan. The brickwork of course forms the steining of the well, and the curb remains at the bottom when all is finished.

In Essex, where a similar method is practised, the curb is a stout ring of wood on which the brickwork is built up. To it are usually attached by iron hooks a number of chains, generally four, which are brought up to the top of the brickwork and there attached to another ring of wood and tightened by screws. The bricks are thus held in place as they sink down. The chains are then slackened, the ring removed, and the brickwork continued up to the surface. The process is then repeated for another section, and so on until the well is completed.

It is possible that the tubs or curbs in the Silchester wells were sunk in some such manner as that just described, though the form of the tubs is against it. It is, moreover, not easy to see how a steining of irregularly shaped flints instead of symmetrically arranged bricks could be carried down by its own weight through such treacherous material as loose or wet gravel, nor how the cylindrical arrangement of the flints could meanwhile be maintained. The fact of two tubs having sometimes been used shows that difficulties existed at *Calleva* in sinking wells through the gravel. Possibly the four holes in the tub before us may have been for attaching chains during the construction of the well, after the plan used in Essex.

We must now pass to the examination of *Insula* XVI. This was bounded by streets on all four sides, and measured 275 feet from west to east, and about 260 feet from north to south. In addition to one isolated square building, it contained three houses, as well as traces of other constructions of an indeterminate character.

A large proportion of the north-west quarter of the *insula* was occupied by House No. 1. It stood at the angle of the *insula*, and had a principal frontage along its northern margin of 132 feet. The house was of the courtyard type, with wings extending southwards from either end of the main structure; the limits of these are however uncertain.

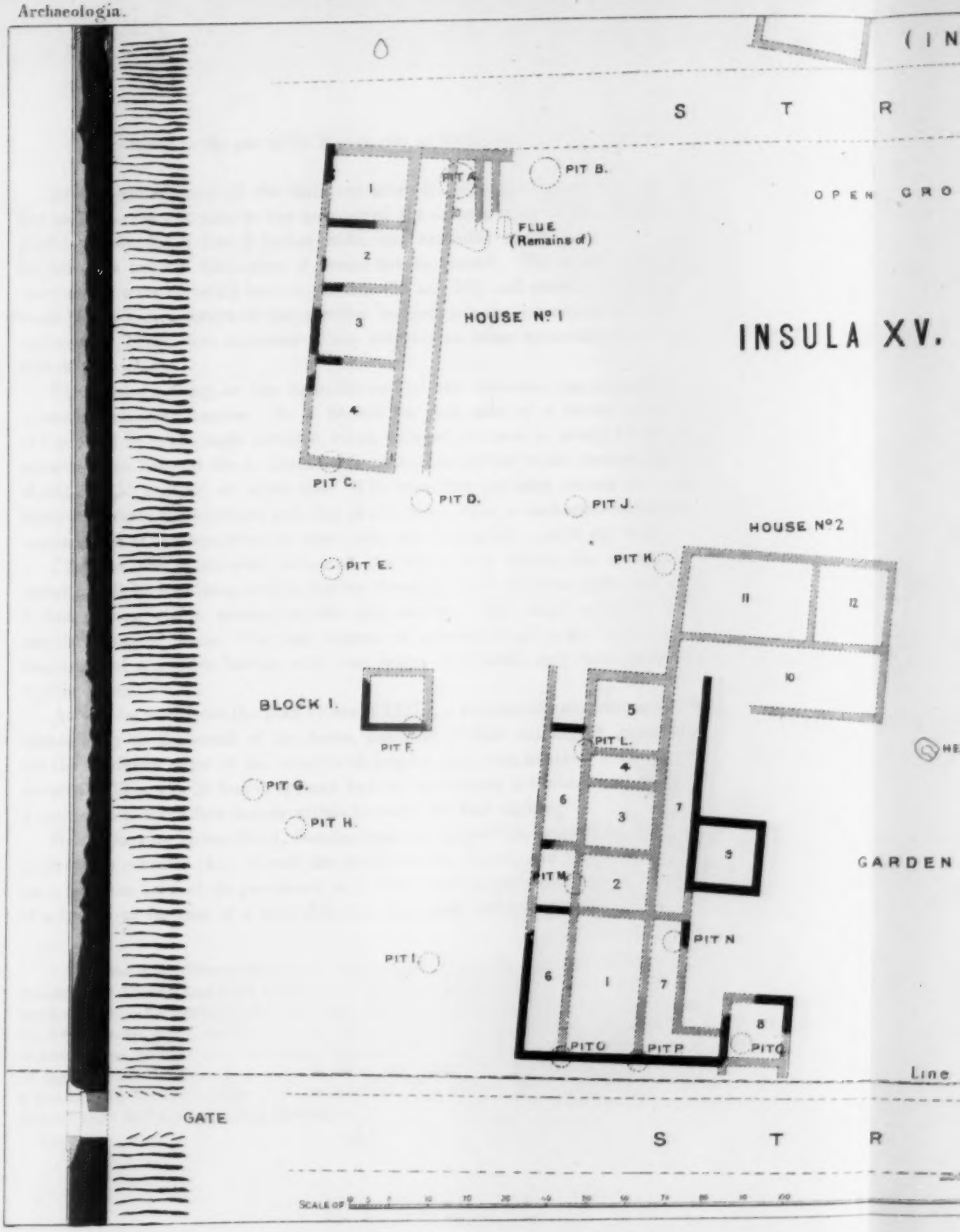
In some respects the plan differs from that of any other house yet uncovered at *Calleva*, and as the walls are thinner than usual they possibly suggest an earlier date for this than the dwellings already investigated.

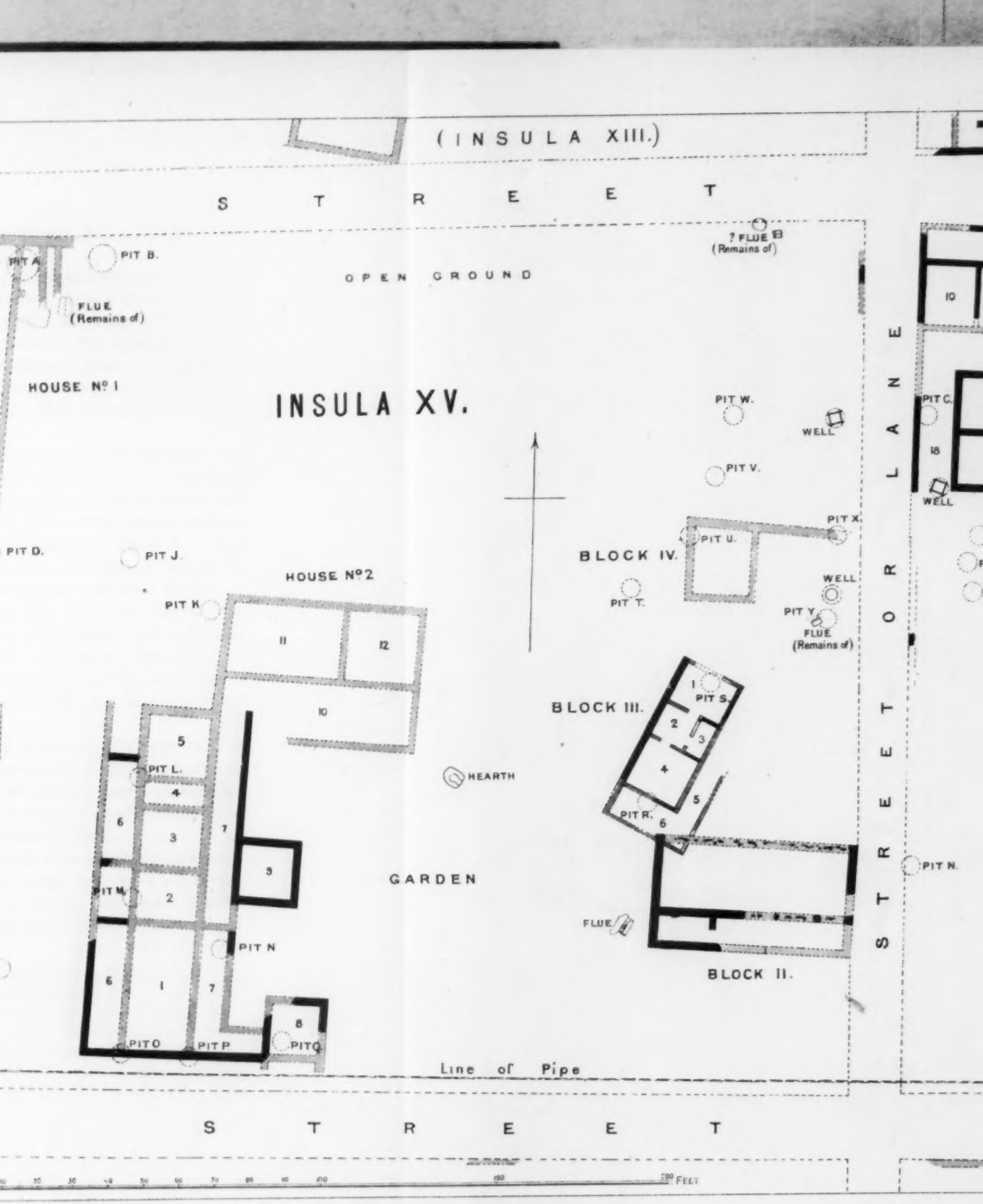
It will be seen from the plan (Plate XXIII.) that House No. 1, although bordering upon the street, is not parallel with its general direction, but is deflected

southwards so as to recede from the street towards its eastern end.[a] Near this end was the principal entrance to the mansion. As in other examples within the city, the doorway has on either side a foundation projecting into the street, in this case as much as 5 feet. These are 11½ feet apart, and no doubt supported a shallow porch. The doorway gave access to a lobby (1), which opened into the western end of a large hall (2), 28½ feet long and 17 feet wide. The entrance from the lobby was 9 feet 6 inches wide, and had opposite to it a like opening of almost equal width which communicated with the interior of the mansion. Against the south wall of the hall, near its eastern end, were found the remains of a tile construction. On the eastern side of the hall was an external appendage (3), about 9 feet in width, which returned northward as far as the entrance lobby, and for 19 feet southwards to a corresponding cross-wall there. This somewhat unusual arrangement suggests the pillared *atrium* of the ordinary classical house; and the inner walls were perhaps merely dwarf walls supporting wooden or stone columns. The tile construction mentioned may in that case indicate the position of a *lararium*.

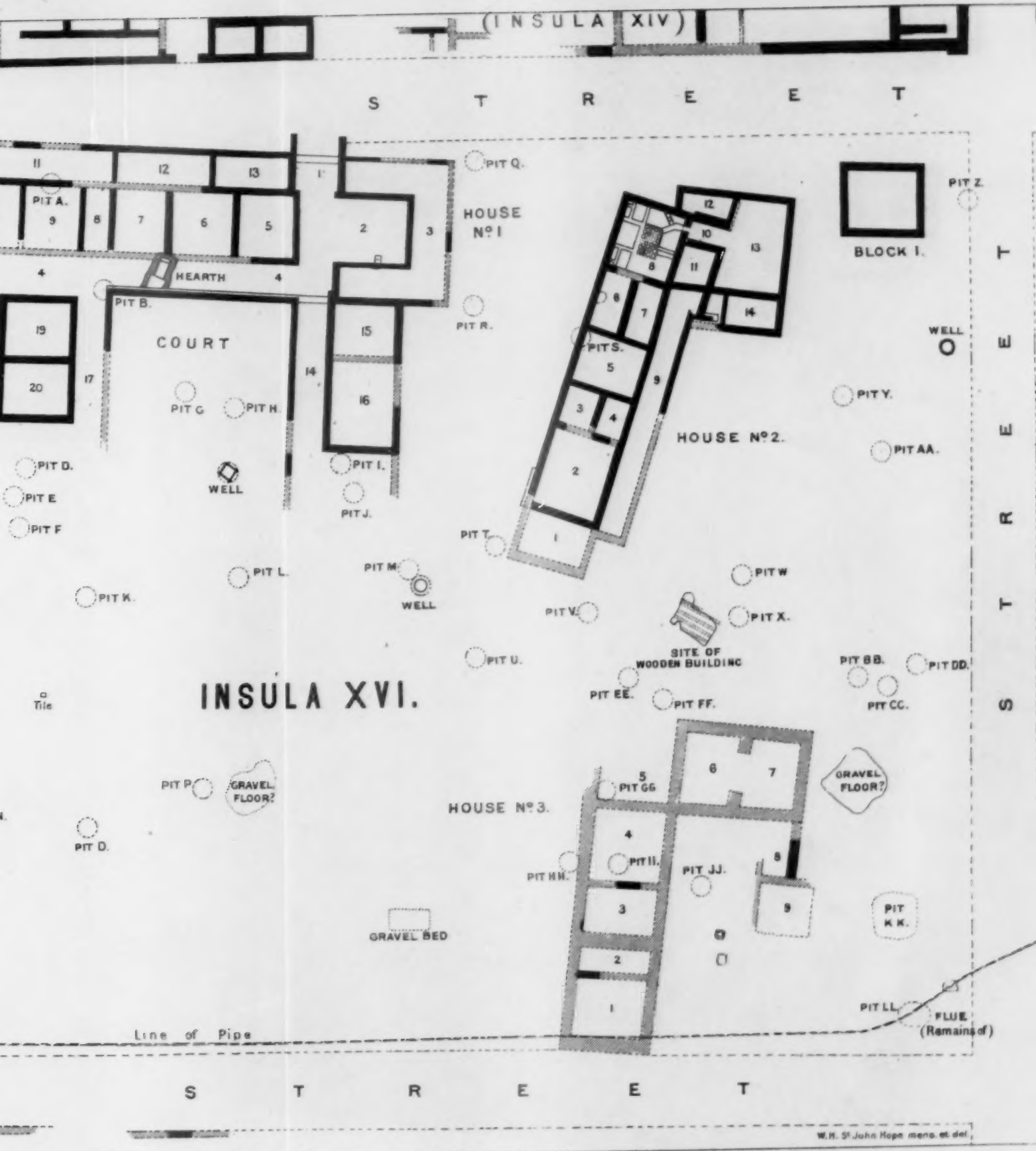
The southern doorway of the hall opened into a corridor or gallery (4) 8 feet 9 inches wide, and about 98 feet long, on the north side of which were the principal rooms of the mansion. These formed a range extending westwards from the hall, with which they corresponded in width. The first chamber (5) possibly had a wide opening toward the hall (2) on the east side, and formed the *tablinum* of the house. Adjoining it was another good room (6), and next to that a third (7). Then came a passage (8) through the range, and beyond that two other chambers (9 and 10). In the northern end of the last chamber (10) was uncovered the wreck of a circular furnace, near which was a patch of rough tiling. By the side of the furnace, set in the floor, was part of a large earthen vessel which, from its burnt and whitened appearance, had evidently been a receptacle for hot ashes. It is not improbable that this apartment was the kitchen of the establishment. Its position at the end of the range was a convenient one for bringing in stores from the street, which it adjoined. The passage (8) from the corridor (4) led northwards through the range to another corridor, which lined the street as far as the entrance lobby. It was about 8 feet wide, but had been converted, by the insertion of cross walls, into a series of three long and narrow apartments (11, 12, 13). In the middle one of these (12) were traces of a floor of *opus signinum*.

[a] In this respect it resembles the original plan of House No. 1, *Insula* I. with which, indeed, it may be contemporary.

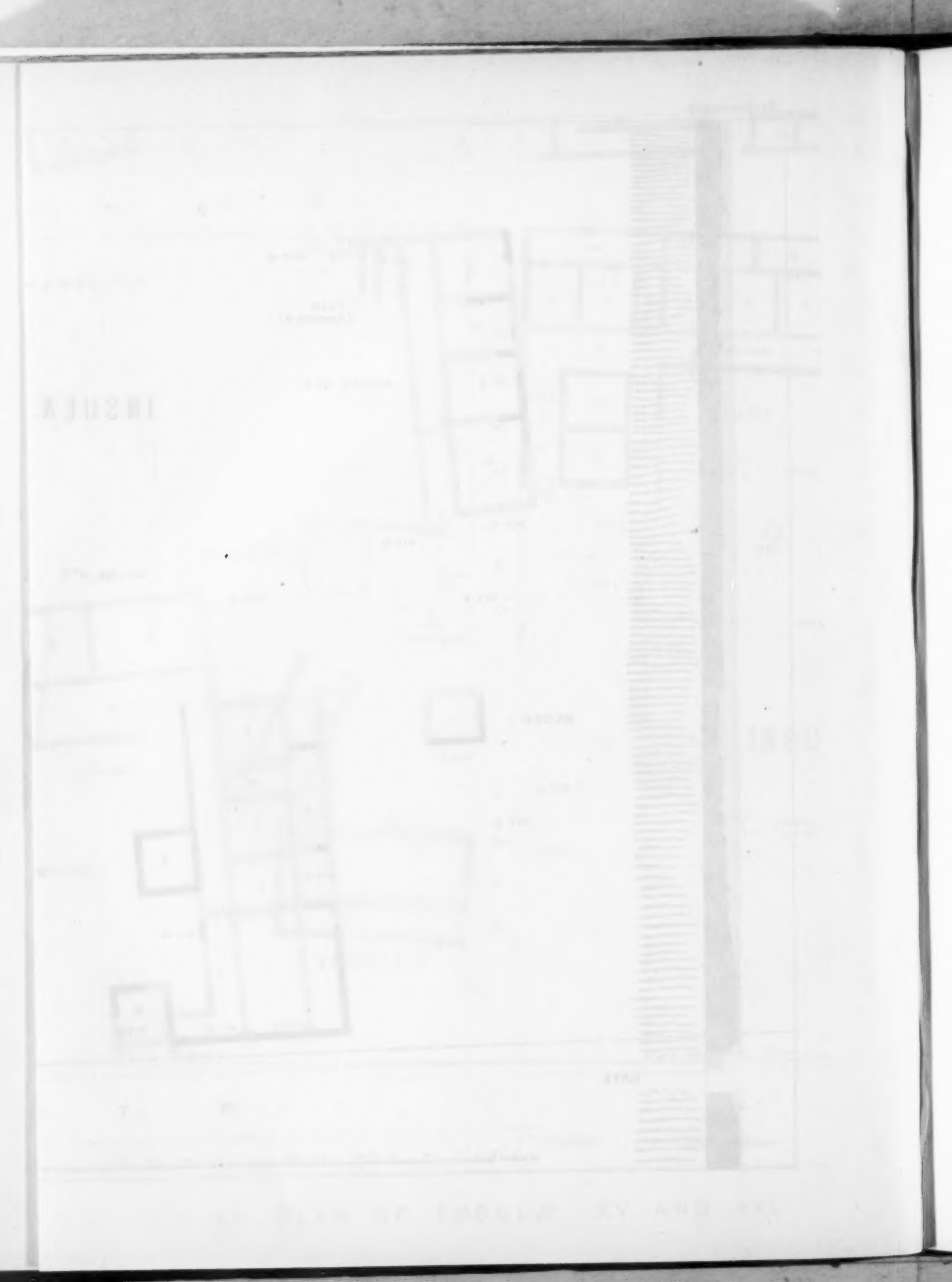

S T R
PIT A.
PIT B.
FLUE
(Remains of)
1
2
3
4
HOUSE Nº 1
INSULA XV.
PIT C.
PIT D.
PIT J.
HOUSE Nº 2
PIT E.
PIT K.
11
12
10
BLOCK I.
PIT F.
5
PIT L.
4
6
3
7
PIT G.
PIT H.
8
PIT M.
2
GARDEN
PIT N
PIT I.
6
1
7
8
PIT O
PIT P
PIT Q
GATE
S T R
SCALE OF



SILCHESTER.—PLAN OF INSULÆ X


(INSULA XIV)
STREET
HOUSE Nº 1
COURT
HEARTH
PIT A.
PIT B.
PIT C.
PIT D.
PIT E.
PIT F.
PIT G.
PIT H.
PIT I.
PIT J.
PIT K.
PIT L.
PIT M.
PIT Q.
PIT R.
WELL
HOUSE Nº 2.
PIT S.
PIT T.
PIT U.
PIT V.
PIT W.
PIT X.
PIT Y.
PIT Z.
PIT AA.
BLOCK I.
WELL
SITE OF WOODEN BUILDING
PIT BB.
PIT CC.
PIT DD.
PIT EE.
PIT FF.
INSULA XVI.
Tile
PIT P.
GRAVEL FLOOR?
PIT D.
HOUSE Nº 3.
PIT GG.
GRAVEL FLOOR?
PIT HH.
PIT II.
PIT JJ.
PIT KK.
GRAVEL BED
PIT LL.
FLUE (Remains of)
Line of Pipe
STREET
W.H. St. John Hope mens. et del.

XV AND XVI.



At the eastern end of the main corridor (4), and opposite the doorway from the hall, was the entrance to the corridor of the eastern wing of the house. This corridor (14) was 8 feet 2 inches wide, and extended southwards for at least 45 feet, but beyond that point it could not be traced. The rooms to which it gave access were certainly two in number (15 and 16), and there was evidently a cross passage, or a return of the corridor beyond, but the indications of this were uncertain. There were no traces of any corridor or other appendage on the east side of this wing.

The western wing, at the opposite end of the mansion, was arranged in a somewhat unusual manner. It is flanked on each side by a return southward (17 and 18) from the main corridor, which widened out here to nearly 11 feet, and consists of an isolated block, about 34 feet long and 20 feet wide, divided into two chambers (19 and 20) of equal size. The corridors probably united in a cross corridor outside the southern end, but of this there were no indications except the continuation of the corridors for some little way beyond the end of the block.[a]

Close to the south-west corner of the block, and within the corridor, we found a well 16 feet deep, with a timber framing 3 feet 4 inches high and about 3 feet square within resting on the clay bottom. The shaft originally had a circular lining of flints. The only objects of interest found in the well were the fragments of a wooden bucket with iron hoops and handle, and some portions of leather shoes.

As will be seen from the plan (Plate XXIII.), a number of pits were met with immediately to the south of the house, but they yielded nothing of importance. On the southern edge of the courtyard, besides two pits, another well was discovered. This was 20 feet deep, and had at the bottom a timber framing 3 feet 6 inches deep and 3 feet square within to carry the flint steining.

Before leaving House No. 1, mention must be made of an interesting discovery in the main corridor (4). About the middle of its length, and below what must have been the level of its pavement, were uncovered the tolerably perfect remains of a hearth or furnace of a type different from any yet found at Silchester. It

[a] The areas of the different parts of the house were as follows: (1) 7 feet 6 inches by 11 feet 5 inches; (2) 17 feet 1 inch by 28 feet 8 inches; (5—10) a uniform width of 16 feet 8 inches from north to south, and a width east and west, of (5) 14 feet 8 inches, (6) 16 feet, (7) 13 feet 4 inches, (8) 6 feet 6 inches, (9) 14 feet 8 inches, (10) 14 feet 1 inch; (11—13) were 8 feet 3 inches wide and 38 feet 7 inches, 24 feet 9 inches, and 19 feet 8 inches long, respectively; (15) 13 feet 4 inches by 16 feet 4 inches; (16) 22 feet 5 inches by 16 feet 9 inches; (19) 14 feet 2 inches by 17 feet 2 inches; (20) 13 feet 8 inches by 17 feet 4 inches. The corridors (17) and (18) were 7 feet 6 inches and 9 feet 4 inches wide, respectively.

extended obliquely across the corridor towards the wall dividing chambers 6 and 7, but was clearly of earlier date, for its southern end had been cut across and destroyed during the building of the house. It had apparently been sunk into the ground, and consisted of an outer and an inner division. The latter was 5 feet 3 inches long by 2 feet 8 inches wide, and had an end and side walls built of unusually thick pieces of tile, averaging $2\frac{1}{2}$ inches in thickness. Against the end wall, which was still standing to a height of 18 inches, was a shelf or ledge, 11 inches wide and $7\frac{1}{2}$ inches thick, built up of three layers of tiles, the front edges of which were burnt to whiteness by long-continued heat. The tile floor seems to have been subsequently raised 5 inches, and the ledge raised to correspond or to an even higher level. The outer walls of the structure, into which the tile-work was bonded, were of flint. They were continued southward to form the outer division of the furnace, which was $4\frac{1}{2}$ feet wide and at least 4 feet long, but it once extended further. There was nothing to show for what purpose or how the furnace had been used. It had, however, clearly not been used for any metallurgic process.

The south-west quarter of *Insula* XVI. was almost destitute alike of pits or traces of buildings. The few pits revealed by our trenches contained nothing beyond some fragments of pottery. The traces of buildings, if indeed they belonged to such, were of a very indefinite character. About the middle of the quarter was an irregular oval-shaped layer of hard gravel, which had every appearance of having once formed a floor, but nothing could be satisfactorily made out as to its limits or extent. It of course may have belonged to a wooden structure of some kind. Another deposit of the same character was met with some little distance towards the south-east. This was of more decided form, being roughly a parallelogram 11 feet long and 5 feet wide. Any structure that covered it must have been of wood, or some such light material.

Occupying almost the centre of the *insula*, and close to a pit which yielded some good pieces of pottery, was a third well. It was 23 feet deep, and had at the bottom the decayed remains of a wooden tub. In emptying out this well was found a fairly perfect bronze jug, $10\frac{1}{4}$ inches high, with a single handle terminating in a comic mask.

The north-east quarter of the *insula* contained two buildings. The smaller of these, Block I., stood near the angle of the *insula* and was almost square in plan, measuring 18 feet by 19 feet internally, with walls 2 feet thick. There was nothing to indicate its purpose or how it had been paved. Similar isolated buildings have been found in other *insulæ* within the city.

The larger building we have called House No. 2. It stood about midway

between House No. 1 and the eastern side of the *insula*, and a few feet back from the street on the north, with which its axis formed an angle of 70 degrees.

This building was originally a house of the corridor type, having a range of chambers 88 feet long and 21 feet broad, with a corridor about 6 feet wide on the eastern side; but its northern end was first altered and then irregularly enlarged. A chamber was also apparently added at the southern extremity, thereby increasing the length to 102 feet. This southernmost chamber (1), as will be seen from the plan, is not overlapped by the corridor (9), and its north and south walls are not parallel. It had a pavement of coarse red *tesseræ*. The next chamber northwards (2) was floored in the same way; it was 21 feet long and 17 feet wide, and not improbably formed the *triclinium*. Next to it were two small apartments (3 and 4), the easternmost of which had a pavement of red *tesseræ*. Beyond them was another room (5) with a red mosaic pavement; it perhaps served as the *tablinum*. To the north of this chamber were two long and narrow apartments, side by side. The western one (6) had a floor of drab stone mosaic with occasional red *tesseræ*, as well as a patch of red mosaic against its outer wall. This may indicate the place of a doorway. The eastern apartment (7) was also paved with drab stone *tesseræ*, but underlying this were found the remains of a mosaic pavement of finer character, composed of a fretwork pattern of red *tesseræ* on a drab ground, with a narrow border of the same material and an exterior wider border of coarse red *tesseræ*. This apartment probably formed a passage from the *tablinum* (5) to the room on the north (8), as well as a vestibule to the latter from the corridor (9). The room at the north end (8) measured 18 feet by 16 feet, and was clearly the winter room of the house. Its pavement had been entirely destroyed to facilitate the removal of the large tiles and other useful building material from the hypocaust that lay beneath it.

This hypocaust was of the usual composite character, having a small central chamber with brick *pilæ*, from which the heat was conducted by passages through solid blocks of masonry to the flues in the walls. The *pilæ* were arranged in four rows of six each. Three of the rows were built up of square tiles, but in the fourth row all the tiles except the lowest one in each *pila* were circular. These are the first examples of circular *pilæ* that we have met with at Silchester.

The stokehole of the hypocaust was originally near the middle of the east wall, but it was afterwards built up, a new one made further north, and the blocks of masonry on that side rearranged.

The hypocaust had unfortunately been entirely destroyed in the south-east

corner, and so we were unable to learn from the position of the flues what doorways there were in this part of the room.

The corridor of the house was paved throughout with ordinary red *tesseræ*, and its width, as already stated, was about 6 feet. How far it extended northwards is uncertain, owing to the alterations that have been made in that direction. These alterations appear to have consisted, first, in a small increase in the width of the corridor, as well as its extension northwards, to allow of the formation of a new furnace-chamber (10) in front of the new stokehole of the hypocaust. This enlarged portion of the corridor (11) was probably shut off from it and served as a wood store. At a still later period, the walls of this seem to have been partly taken down, and there was then built out, eastwards and northwards of the winter room, a large enclosure (13) 28½ feet long and 24 feet wide, with an extension or return of the corridor (14) increased to 8 feet in width along its southern wall. Part of this return seems to have been afterwards cut off by a partition to form a separate apartment. I have called the large addition an enclosure, because it is difficult to see what else it could have been; its large area, its comparatively thin walls, which are only 21 inches thick, and its awkward junction with the main building, all seem against its having been roofed over. Regarded merely as a yard, which it probably was, it would contain at the same time the stokehole of the hypocaust, the fuel to feed it, and such ashes as were periodically raked out of it.

It is highly probable from the plan of this house that it had an upper story, but it is not certain where the staircase was. It may have been at the south end of the corridor, but it is also possible that it was placed at the opposite end, perhaps on the south side of the added yard, where there are traces of walls not easily accounted for.

It is of course impossible for us now to say why the additions to the north end of the house were placed so eccentrically.

To the east of House No. 2, and close to the street there bounding the *insula*, was found another well. This was 3 feet in diameter, and neatly steined throughout with flints, but we were unable to reach its bottom owing to the constant inflow of water. Nothing was found in it but some very rotten bones.

The ten or twelve pits met with in this part of the *insula* yielded a number of minor antiquities and pieces of pottery.

Not far from the south-east corner of House No. 2, and about midway between it and House No. 3, was uncovered an irregular patch of gravel flooring, roughly oblong, about 11 feet long and half as wide. After this had been washed by the rain there appeared across its surface, lengthwise, a series of dark parallel, or nearly

parallel, bands, 6 inches wide and about 18 inches apart. Examination showed that these were actually square-cut trenches, which, though now blocked up with earth, were such as might have been formed by filling with gravel the interspaces of a series of floor-joists that had afterwards decayed. Such a method of bedding the joists before laying the boards is an unusual one of making a wooden floor, but it is difficult to see in what other way the parallel trenches are to be accounted for. Nothing was found to indicate the precise extent or the use of the building that covered the floor.

House No. 3 resembles, in its general disposition of plan, that of House No. 2 in *Insula* XV., but it was on a somewhat smaller scale, and its remains were unfortunately too imperfect to enable its arrangement to be more than approximately measured.

The house stood nearly north and south, with its south end abutting on the street there bounding the *insula*, with which it formed a slight angle. It was about 88 feet distant from the street on the east side of the *insula*.

As the plan of its gravel foundations shows (Plate XXIII.), it consisted, first, of a row of four or five chambers (1—5), extending northwards from the street. The second of them (2) was only 6 feet wide, and may have contained a stair to an upper story. On the east side of the chambers was probably originally a corridor, but of this nothing was found except some indefinite traces of a cement floor. At the upper end of the row of chambers was a block at right angles to them, about 31 feet long and 18 feet wide, which had apparently been divided into two parts (6 and 7) by a wall placed somewhat obliquely, and pierced with a wide opening. South of this was a narrow passage (8) which communicated with a room (9) about 14 feet square. This had a floor of pink *opus signinum*, upon which had been laid a pavement of fine mosaic; of this, however, only a number of loose *tesseræ* were found.

Between the south end of this pavement and the main range of the house was a patch of burnt tiles, which perhaps formed part of one of the long flues. The remains of another of these flues was found in the south-east angle of the *insula*.

To the east of the transverse block of House No. 3 a large square bed of gravel was uncovered, which perhaps served as the floor of one of the detached rectangular buildings. No traces, however, of any walls were found, but the structure may have been of wood.

Halfway between the *opus signinum* pavement in House No. 3 and the street on the east there occurred an unusually large pit (KK). It was about 12 feet square and 16 feet deep. From it were obtained a large number of the blade-bones of sheep, which had evidently formed the refuse of a worker in bone. The

thin and flattened surfaces are perforated with numerous holes, which have apparently been made by cutting out rings with a centre-bit or some such instrument. The rings were of two sizes, $\frac{1}{2}$ inch and $1\frac{1}{8}$ inch, and were cut with two tools, one for the lesser rings, the other capable of cutting both sized rings simultaneously. In each case a central hole $\frac{1}{4}$ inch in diameter was made by the cutter. In the thinner portions of the bone the rings were cut straight through: but in the thicker parts, after the ring had been partly sunk, the bone was turned over and a second cutting made to meet the other. The method of working is plainly shown by the unfinished or imperfect rings that are left in some of the specimens.

To the south of the pit that yielded these curious relics of a Romano-British industry, another pit of the usual kind was met with. From it were obtained some small vessels of red glazed pottery, and a curious piece of wood, not unlike the bar of a yoke. This is of oak, and measures 5 feet in length by 2 inches in thickness. It is 5 inches broad in the middle, but tapers quickly to $2\frac{1}{4}$ inches, which is the breadth at the ends. It is not straight, but curves slightly from the centre to each end.

In clearing out another pit hard by, a more remarkable discovery was made. In the opposite sides of the pit a curious cutting was disclosed filled up with gravel of a different texture from the natural bed of the same material through which the pit was sunk. This cutting was followed in a north-easterly direction as far as the limits of the *insula*, where the growing corn prevented its being traced further until after harvest. In the opposite direction the cutting was followed westwards, at first by sinking a shaft to intercept it and then tunnelling between, but afterwards by opening it out to its full width and depth. It then appeared as a trench between 6 and 7 feet deep and about 3 feet wide, gradually narrowing to a little over a foot at the bottom. This trench was followed through the southern end of House No. 3, along the south side of *Insula* XVI. and about halfway across *Insula* XV. Beyond this it was traced by cross sections at intervals until it reached the foot of the bank lining the city wall, from whence it was followed tunnel-wise under the bank and wall into the ditch. It here terminated at about 18 feet from the wall against a rough mass of flint masonry.

In the portion of the cutting first excavated there were found at the bottom, at irregular distances of about 7 feet apart, the remains of a series of iron bands or collars, but no traces of them remained west of House No. 3, *Insula* XVI. These bands had an internal diameter of $4\frac{1}{2}$ inches and an average width of $1\frac{1}{2}$ inch, and had clearly formed the joints of a series of wooden pipes laid in the trench. Of these pipes every other vestige had entirely disappeared, but the evidence of them is plainly visible on most of the fragments of the iron bands.

The junctions were made first by driving a band into the end of one pipe, then placing the next pipe against it, and with a blow of a mallet driving this second pipe on to the band so that it united both pipes. The joint appears to have been made watertight by some kind of cement placed inside and outside the collars when the pipes were being laid.

There does not seem to be any record of such a discovery as this elsewhere in this country, but one of precisely the same kind was made in France in 1772 on the site of a Roman town at Chatelet, between St. Dizier and Joinville, in Champagne. It it thus described by M. Grignon, who carried out extensive excavations there by order of the king:

> Nous avons ouvert une tranchée de deux pieds & demi de largeur, sur 50 toises de longueur, qui renfermoit une conduite d'eau composée de tuyaux en bois entiérement détruit. Nous n'en avons trouvé d'autres vestiges que des parcelles de bois, que étoit ferrifié dans les liens de fer qui contenoient les sertissures : ces liens se rencontroient exactement d'espace à autre, de cinq pieds & demi environ de distance.[4]

M. Grignon unfortunately gives no further particulars of his discovery.

Owing to the rise of the ground at Silchester as the trench approached the city wall, it seemed to increase in depth as it proceeded westwards, but a succession of levels taken at intervals throughout its length showed that the bottom was practically horizontal.

The ditch outside unfortunately is at present filled with bushes and undergrowth, which we could not obtain leave to remove; we have not therefore yet been able to ascertain to what the masonry there found belonged, or in what way it was connected with the pipe. These points must accordingly wait solution until the periodical cutting of the undergrowth now cumbering the ditch.

After harvest we were able to trace the course of the pipe eastwards. It passed under the street and into *Insula* III. in an east-north-easterly direction, and then gradually trended eastwards from the street for 62 feet, where it apparently ended. The last collar which was found here was 48 feet distant from the southern limit of the *insula* and about 45 feet from House No. 1, *Insula* III. It was also nearer the surface than the others, being only 3 feet 6 inches from the present level, while the next collar, which was 6 feet 3 inches distant, was 5 feet under ground, or 18 inches lower. Another collar 49 feet further west was 7 feet deep, while two collars found where the pipe traversed the south end of House No. 3, *Insula* XVI., were only 5 feet from the surface. There does not

[4] Grignon, *Bultin des fouilles faites par ordre du Roi, d'une Ville Romaine, sur la petite montagne du Chatelet, entre St. Dizier et Joinville, en Champagne, découverte en 1772* (Bar-le-Duc, 1774), ix.

seem therefore to have been much care taken to lay the pipe level.

Efforts made to trace the pipe beyond the point already noted in *Insula* III. led to the unexpected discovery of an important building with which it was apparently in connection. This building lies at a much lower level than any other in this part of the city, and it had been entirely overlooked when we excavated *Insula* III. in 1891. This is to be accounted for by the fact that besides its greater depth it is overlaid by a hard layer of gravel which has been intentionally deposited above it, and further, because it partly underlies House No. 1. So far as the building could be traced it appears to contain at least two well-made drains built of tiles, as well as one or more hypocausts, and a chamber with a tile floor. Unfortunately the difficulty in clearing this deeply buried building was so enhanced by the unusually bad weather which set in early in September that it was deemed unadvisable to proceed further with it, and it was accordingly covered up. That our pipe was laid to conduct water to it from the city ditch there can be little doubt, but we have still to find out by what means the water was made to run through the pipe by gravitation, and with sufficient pressure to overcome the rise at its eastern end. The building was clearly one in which much water was used, but whether it contained baths or not has yet to be ascertained. It may, however, be pointed out that the house which overlies it was connected with a building at the south-east corner of the *insula*, which seems, from its arrangements, to have formed a private bathing establishment.[a]

It may of course be suggested that the pipe served to convey waste water into the ditch rather than to bring a supply into the city But in that case we should certainly have expected it to take a different direction, for had it run southwards instead of westwards it would have gone downhill the whole way, instead of traversing ground which was for the most part level. Moreover, the last two collars found were so much higher than the drains that it seems difficult to imagine the pipe as laid for any other purpose than a water supply.

During the following up of the course of the water-pipe the question was raised as to its probable place of exit beneath or through the city wall, and as its line then seemed to be pointing for an apparent break in the wall where the mound was also lower than usual, an excavation was there made. This resulted in the totally unexpected discovery of a hitherto unknown gate in the city wall, and one moreover presenting several features of interest. It originally consisted of an archway 11 feet $7\frac{3}{4}$ inches wide and 3 feet 3 inches deep set in the outer

[a] *Archaeologia*, liii. 281-283.

face of the wall, which was here 9 feet 7½ inches thick, with an inner arch 6 feet 10½ inches deep and 11 feet 10½ inches wide towards the city. (Plate XXIV.) The outer arch had unfortunately been destroyed, with the exception of the chamfered plinth of its north side. (Plate XXV.) This projected 4½ inches beyond the plinth of the wall, which here luckily remained,* and of which it formed a continuation, and upon it there apparently stood a pilaster, 2 feet 6 inches broad, flanking the arch. The north-west corner of the plinth was apparently worn down by continual contact with the wheels of vehicles that passed through the gate.

The jambs of the inner arch were standing to a height of over 6 feet on each side. Like the wall they had a chamfered stone plinth, and were built of layers of flint with occasional lacing courses of stone, with stone quoins on the city side. The construction had originally been concealed, as usual, beneath a coat of plaster.

The removal of the earth within the wall on either side of the gate showed clearly in the section thus made that the mound lining the wall had been cut down so as to slope gently towards the street that led to the gate.

At some late period in the history of the city extensive alterations were made to this gate. In the first place, the roadway inside it was raised between 4 and 5 feet, with a corresponding ascent to it from within the city. Upon this had been built, against the north jamb only, a mass of masonry 4 feet 11 inches broad, of somewhat poor construction, which extended through the wall and reduced the gateway on the inside to 7 feet in width. (*See* Plates XXIV. and XXV.)

How the original archway was treated is a matter of conjecture, since nothing remained to show, but probably the lesser arch of the gateway as altered was built within it and accommodated to the old impost and jamb on the south side, which again did duty in the new gateway.

Several interesting objects were discovered in and about the gate. Foremost among these are a number of fragments of worked stone. They include pieces of seven different imposts of varying design and section. The largest, which was 8½ inches deep, may possibly have formed part of the impost of the original gate, but it is doubtful if the others were in any way connected with it. It will be remembered that various architectural remains that did not belong to them were found when the north, south, and west gates were excavated, and in like manner these fragments may have been used as building material when the gate in question was altered. This seems probable because another fragment found

* The outer facing of the wall is perfect for some little way beyond the gate northwards to a height of 2 feet 3 inches above the plinth. It was formed of flints regularly laid, with lacing courses of sandstone at intervals.

among the rubbish was evidently part of an enriched cornice from some building in the city.

Besides the architectural fragments, two other interesting relics were turned up in the gate.

One was a cylinder of iron, 4 inches in diameter and the same in depth, with a slightly convex plate at the bottom, which had become detached. Inside the ring are traces of wood, and it is evident that we have here the iron shoe of one of the pivots on which the doors of the gate turned. Part of a similar shoe was found during our excavation of the west gate in 1890.[a]

The second relic also belonged to one of the doors, and is a massive strap of iron, $2\frac{1}{2}$ inches deep, bent round so as to embrace both sides of the gate, to which it was fastened by stout nails. The distance between the two limbs shows that the woodwork of the gate was $4\frac{1}{2}$ inches thick where the strap was fixed. One limb is still 14 inches long, but was once longer; the other is bent and twisted as if the ironwork had been violently torn off the gate. Part of a strap, $1\frac{1}{8}$ inch deep, for a door 4 inches thick, was also found at the west gate.[a]

Although we were unable to get leave to follow up in the ditch the termination of the trench for the pipe, we were allowed to sacrifice one or two bushes in a thinly-planted portion nearly in front of the gate, in order to cut a narrow section right across the ditch. We were the more desirous to do this because there were not any signs of a causeway to the gate from without, and it was therefore a matter of interest to learn how it had been approached. This section was made at $14\frac{1}{2}$ feet south of the south jamb of the gate, and was 3 feet in width, and at right angles to the city wall. There was no difficulty in recovering the original contour, the ditch itself being cut in the hard gravel which underlies the city and much of the land to the west and north of it, while the filling up that obscured the old line was vegetable mould mixed with flints from the wall. The thickness of this deposit was about 5 feet, but near the wall it increased to 8 or 9 feet.

The section (*see* fig. 1) differed considerably from what we expected to find. To begin with there was no berm, but the scarp descended somewhat abruptly from the plinth of the wall to a depth of 7 feet from the old roadway in the gate, which represents the original level. From this point, which was $6\frac{1}{2}$ feet from the face of the wall, the ditch gradually shelved downwards for 50 feet, where its lowest depth was 12 feet. It then commenced to rise somewhat quickly, so that at 73 feet from the wall the depth was only 6 feet, but the rest of the counter-scarp

[a] *Archaeologia*, lii. 756, and plate xxxiii.



SILCHESTER.—LESSER GATEWAY IN THE WEST WALL, WITH LATER PARTIAL BLOCKING, DISCOVERED IN 1896.

From a Photograph by Mr. Victor White.

was under a field beyond our limits and could not be followed up. The total width of the ditch was about 80 feet. At a distance of 22 feet from the wall we came upon the slope of a gravel bank, which further excavation showed to be



Fig. 1. Section of the city ditch by the lesser west gate at Silchester.

2 feet 6 inches high and 19 feet wide in all, with a flat top 9½ feet wide, parallel with the slope of the ditch. This bank was found to pass across the front of the gate, but we were not able owing to the undergrowth to find either end of it. Having regard to the absence of a causeway and the lack of any flanking

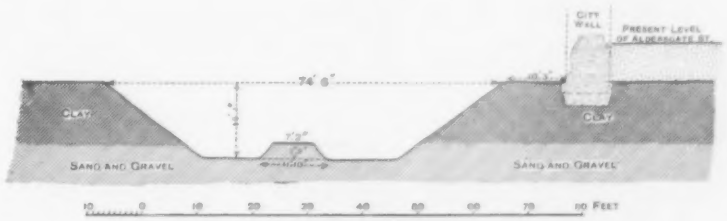


Fig 2. Section of the Roman city ditch near Aldersgate, London.

defences to the gate, it is clear that the approach was by a wooden bridge that could easily be destroyed in time of peril. It seems to have been in two sections: a long one spanning the deepest part of the ditch, and a short one, perhaps a drawbridge, immediately before the gate. The trestles that supported the junction no doubt stood upon the gravel bank.

An account of the discovery of a similar bank in an identical position with regard to the Roman gate at Aldersgate, in the City of London, was laid before the Society in 1889 by our Fellow Mr. George E. Fox.[a] As the accompanying section (fig. 2) shows, the bank was 11 feet 10 inches wide at the bottom and 7 feet 2 inches across the top, and 2 feet 9 inches high. The ditch was there 74 feet 6 inches wide and 14 feet deep.

[a] See *Archaeologia*, lii. 609-616.

The gate leading to the amphitheatre at Silchester which was uncovered by Mr. Joyce in 1865,[a] and again examined by us in 1893,[b] was of similar character to and of about the same dimensions as that recently found. It, too, had a wooden bridge across the ditch instead of a causeway.

Too much stress must not be laid upon the particular section laid open last year, for it is obvious on examination that the ditch differed widely at various points round the city, and many more sections must be cut before any definite theory can be laid down about it. One question that will have to be faced is the actual date of wall, ditch, and mound. The ditch and mound have hitherto been looked upon as Celtic, but the mound is of earth and not of gravel, as it should have been had it been formed of the material excavated from the ditch, while the unexpected discovery of a rubbish-pit of the usual character in the ditch itself close to the wall, which yielded "Samian" and other undoubted Roman pottery as well as the coarse native ware, raises a strong doubt as to the pre-Roman date of ditch and mound. It is, in fact, quite possible that the outer earthwork, which has hitherto been regarded as a second line of defence, may prove to be the actual boundary of the Celtic *oppidum*, and that the Roman settlement was at first conterminous with it, and afterwards reduced in size and enclosed by a wall and ditch.

On all these points, however, additional light can be thrown only by further excavations, and it is much too soon for more than mere suggestions.

In addition to the other operations after harvest a small area was trenched on the south side of the parish churchyard, which is within the wall near the east gate, in view of its immediate enclosure as an additional burying ground. This area adjoins that containing the two square temples uncovered by us in 1891.

The comparatively small size of the ground to be enclosed and its proximity to the city wall did not promise any great results, but the trenches fortunately disclosed about the centre of it a small house of the corridor type. It stood north and south, and probably abutted upon the street that formed the southern limit of the temple enclosure, but operations here were impossible owing to the north end of the house being under the churchyard. Its probable length was about 77 feet.

As will be seen from the plan (fig. 3) the house contained a series of at least four chambers, averaging 20 feet in width, with a corridor on the west side, 8 feet 4 inches wide, terminating at a small square room which was placed across its southern end. The walls were built chiefly of flint with a large admixture of soft green sandstone. No traces of pavements were found, but in the corridor

[a] *Archaeologia*, xl. 416.

[b] *Archaeologia*, liv. 237.



SILCHESTER.—NORTH SIDE OF THE LESSER WEST GATE, SHOWING ALSO PLINTH AND FACE OF WALL.

From a Photograph by Mr. Victor White.

were some remains of a white plaster floor. In the room at the end of the corridor, against its northern wall, is a patch of tiling about 2 feet 6 inches square, which appears to have formed part of a fireplace, like that found in House No. 2, *Insula* XIV.

The only object of any importance found in or about this house was a small piece of worked porphyry, which probably came from one of the adjacent temples.

The usual collection of minor antiquities was made during our excavations.

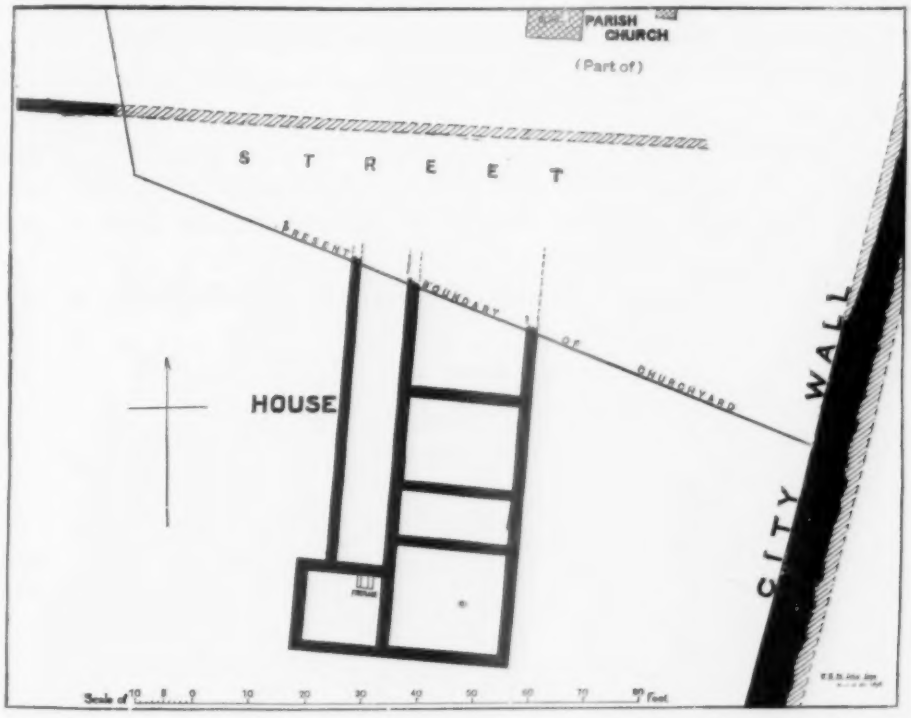


Fig. 3. Plan of the foundations of a house uncovered to the south of Silchester parish church in 1896.

Of architectural remains, only one small capital of a column, closely resembling that found in 1895,[a] was met with.

Among the bronze objects may be noticed the remains of a delicately made strainer with the perforations disposed in a fret pattern, two bells, a flattened boss inlaid with niello, part of the bronze plating of an ornamental casket, a ring with what may be a Chi-Rho on the bezel, a charm against the evil eye in form of a bull's head with a phallic emblem in the mouth, and four oval brooches once

[a] See *ante*, 238, fig. 3.

gilt, of which two retain their imitation glass gems. Another imitation gem of green glass, but square in form, was also found. There is also the usual series of brooches, pins, spoons, tweezers, keys, *spatulæ*, etc.

The lead tripod foot of a candlestick may also be mentioned.

Of iron objects there are several of interest, including a pair of compasses, the end of a cart pole (?), two lamps of different shapes, a candlestick, and a number of knives, *styli*, keys of various patterns, etc.

Very little glass was found in 1896, but we were fortunate enough to light upon another large fragment of the rare variegated glass in the form of a handle of a vessel of a well-known bronze form, but rare in glass or pottery. We also found, besides a few beads, a small square panel of very rare mosaic glass of a deep blue with pink flowers and yellow leaves.

A remarkable object from the top of a pit in *Insula* XV. is part of a stool leg turned out of some hard wood. Pieces or even fragments of Romano-British furniture are of such rarity that this discovery deserves more than a passing notice.

The accompanying block-plan (fig. 4) shows the progress made up to the present in the excavation of the city.

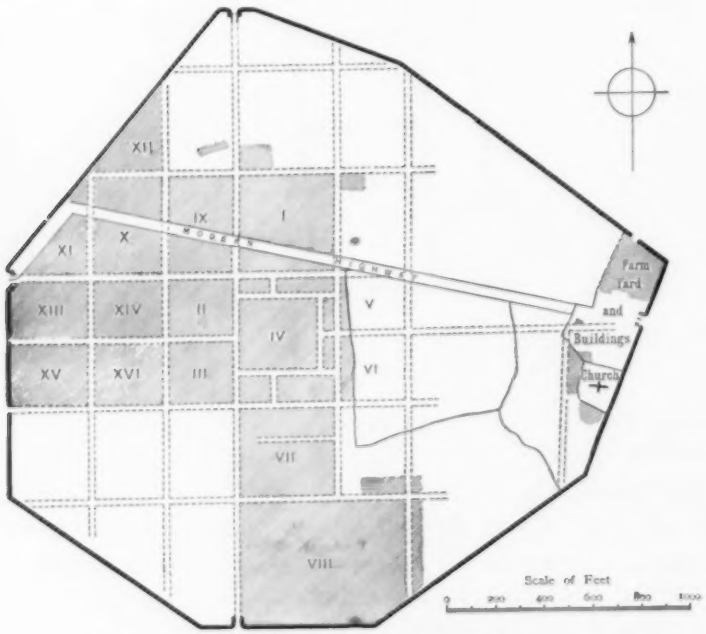


Fig. 4. Block-plan of Silchester, showing portions excavated down to the end of 1896.



MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.—FROM THE NORTH-WEST.

XIX.—*Notes on the Church now called the Mosque of the Kalenders at Constantinople.* *By* EDWIN FRESHFIELD, *Esq., LL.D., F.S.A.*

Read April 7, 1881.

THIS paper was read before the Society in 1881, but owing to the difficulty of getting the photographs necessary to illustrate it properly it has not been ready for publication until within the last two years.

In the year 1877 my late friend Dr. Paspati, then resident at Constantinople, published a list and a description of some then unidentified Byzantine churches in Constantinople, the majority of them being used as Mohammedan mosques. In the year 1880 I visited all of them, and among the number a building which Dr. Paspati describes as the Kalender Khane Djami, or the Mosque of the Kalenders. We know this word from the story of the Three Kalenders among the Arabian Nights tales. The Kalenders were a Mohammedan religious order, believed to have originated in Andalusia and distinguished by the strictness of their rule.

This building lies out of the usual track of visitors, in the district called Shahzadé, from the large mosque of that name, and is close to the eastern end of the aqueduct of Valens, lying to the south of it, and not far from the point at which the aqueduct terminates in the rising ground.

It can be found by inquiry at the mosque of the Shadzadé, and since I have taught the various Constantinople guides, the way to it is pretty well known.

I remember describing to the Society the difficulty I had in finding it and afterwards obtaining access to the interior of the Djami, but that is all now ancient history. At all events, when I saw Dr. Paspati a year or two afterwards he told me that he had never succeeded in getting inside the building, and, as far

as he knew, except it might be a Christian mason or carpenter, no Christian had ever found his way into the building until I did.

What I saw I am going to describe, and to make what I say intelligible I have illustrated the paper pretty plentifully with pictures.

The first of these is a view of the outside taken from the north-west side of the building, which shows the general appearance of the building. (Plate XXVI.)

From the accompanying ground plan and sections (figs. 1-4), which I have caused to be made, it will be seen that the building is oblong in plan, and consists of a double narthex, the outer of which probably communicated with a

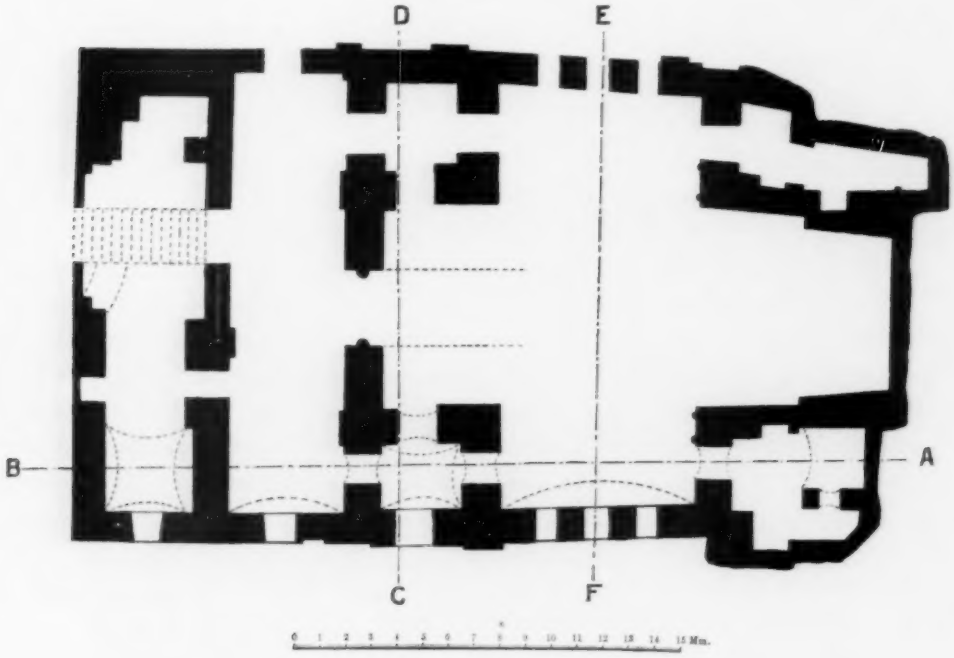


Fig. 1. Plan of the Mosque of the Kalenders at Constantinople.

forecourt now destroyed, and the inner opens into the body of the church, with the women's gallery over it. The body of the church is nearly square and has the interior so arranged that, according to the usual Byzantine plan, it forms a cross inscribed in a square. The centre of the church is roofed by a dome standing upon a low drum.

The eastern end of the building is square, in this respect differing from every



CAPITAL IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.



Hanson & Arnold

CAPITAL IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.



MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — REMAINS OF THE IKONOSTASIS (NORTH SIDE)



Hanns & Arnold

MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — REMAINS OF THE IKONOSTASIS (SOUTH SIDE)



MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.—DETAILS OF THE REMAINS OF THE IKONOSTASIS.



Hanfstaengl

MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.—DETAILS OF THE REMAINS OF THE IKONOSTASIS.

Byzantine church I had ever seen, and about which something will presently have to be said.

The outer or exo-narthex is approached by one door only. The ground has risen so much at the west end of the building, probably by the ruins of buildings at this part, that the present door cannot have been the original one, and is, I think, more likely to have been a window. The floor of the outer narthex is reached by a steep flight of steps. The outer narthex opens directly into the inner narthex.

The body of the building is reached by a round-headed arch, supported on either side by pillars with a *quasi* Corinthian capital, but of different dates. The northern capital (Plate XXVII.) is apparently taken from an older building, the southern one (Plate XXVIII.) is of the date of the building.

On entering the church it is seen that it retains, in a measure, its original marble decoration. Deficiencies have been occasionally supplied by Turkish stucco and paint, but the building retains a large part at all events of its decoration, and in that view is very interesting.

There is no trace of the original decoration of the dome, which was, no doubt, covered with mosaic.

The roof of the so to speak nave and chancel or ieron of the building is cylindrical, and the dome is supported upon the usual Byzantine pendentives.

The ieron is large, and at either side of it are the well-known arrangements for the prothesis on the north and the diaconicon on the south.

And here there is a very interesting feature in the walls which divide the ieron from the two side-openings. These walls are entirely covered with marble; the remains of the ikonostasis or picture-screen are still *in situ* (Plates XXIX. and XXX., XXXI. and XXXII.).

The top of the screen is formed of a broad piece of carved white marble, and although this has been very plentifully whitewashed, sufficient of it can be seen through the thick coats of the material to get a general idea of it. This will be seen from the plates, which show not only the general appearance but the details. I shall describe this screen presently.

The openings into the prothesis and diaconicon have been partially blocked up, and the openings connecting the ieron with these chambers quite so, but the position of them can be seen, and when I first visited the church the communication between the prothesis and the ieron was partly open.

From Plates XXIX. and XXX. it will be seen that the east end of the building

at present appears square. This is an absolutely unknown arrangement in a Byzantine church, and when I first saw it it puzzled me much.

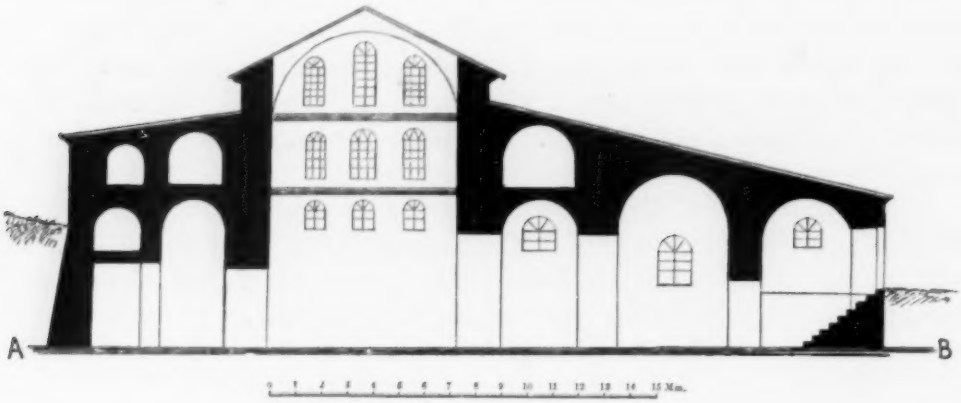


Fig. 2. Mosque of the Kalenders at Constantinople.
Section on line A B of plan, looking south.

When I examined this end attentively, the first thing that struck me was that there was no marble at this part of the church. The whole seemed to be stucco and paint. On the other hand, inasmuch as the church did not point to Mecca, the Turks had built up a wall against the square east end, in which a mihrab pointing to Mecca had been made, which militated against the end being Turkish.

At this time there were wooden buildings all round the east end, and I was unable to find anything out. But the fact remained, that the square east end had been altered by the Turks. So I was left in doubt. Fortunately, a few years after, a fire happened which destroyed all the buildings at the east end of the church, and this enabled me to get a clear view of it from the outside; this afforded at once an answer to the riddle. The semicircular apse had been pulled down by the Turks, and a square wall built up by them, as was apparent from the masonry, which was not Byzantine. I immediately had a photograph taken to preserve a record of this fact, and the broken ends of the wall, which show the commencement of the curve of the central apse, may be seen in it. (Plate XXXIII.).

I cannot account for the second wall built inside the Turkish wall. It may be that the kalenders were content with the orientation of the square end, and that when they left the building the inner wall was built by the zeal of an imaum, when the building became a district mosque.



MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — EAST END

There are galleries over the prothesis and diaconicon on either side, and provisional arrangements for getting up to them. I do not see how they could ever have been reached from the women's gallery at the west end of the church. There have obviously been Byzantine buildings at either side of the east end of the church, probably connected with the church itself, and access may have been had from these.

At the side of the south transept there are pillars with capitals in the same style as those at the west entrance.

I must now say a few words about the two portions of the ikonostasis or screen, which still remain in the position I have indicated. These portions of the screen are divided into three parts, consisting of a lower division, a middle division, and a cornice. The lower division, which is only a few feet high, consists of a slab of marble flanked by two small marble pilasters, with a sort of cushion capital supporting a narrow cornice of marble carved with a usual Byzantine ornament. The capitals are ornamented with clinging acanthus leaves. The middle division consists of two large slabs of marble, each flanked by two thin pilasters of *verde*

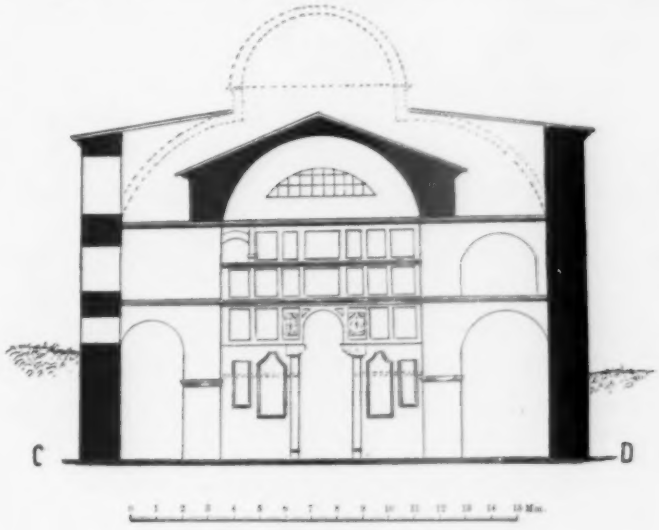


Fig. 3. Mosque of the Kalenders at Constantinople.
Section on line C D of plan.

antique, with very elegantly carved capitals with falling foliage. The cornice is of white marble, delicately carved with falling acanthus leaves; and, as I have said before, plentifully covered with plaster and whitewash. There seem to have

been figures in low relief, after the Byzantine fashion, at the ends, and at the middle of each division of the cornices, which figures have been defaced by the Turks, and a sort of rough imitation of foliage made in plaster to take their place (Plates XXXI. and XXXII.).

There is no doubt that the cornice was carried across the three openings. Indeed, I think I could see where the cornice had been cut off. I think the screen would probably be in arrangement like the two side pieces.

The lower part would correspond to the lower part of them.

In the middle division, in the place of the slabs of marble, would be placed large pictures, covered, except as to the faces and hands, with silver, and between the top of the pictures and the cornice there would be an open space.

The cornice would probably be supported by pilasters similar to those at the two sides, or perhaps pillars, and in the space between the north and south walls of the ieron would be divided into three or five divisions.

There would be a door or opening into the ieron, in the middle of the screen, and there would probably be a similar arrangement in front of the two side openings.

There is an original ikonostasis or picture-screen in existence in the church of St. Luke at Stiri, in northern Greece. This screen is later in date than the present one, but probably all these screens were arranged upon a general principle, so that we shall not be wrong in saying the screen in our church would be made upon the same general idea as the screen in St. Luke's (Plate XXXIV.).

This particular feature is very interesting, because in no building in Constantinople is there anything exactly like it. In one church, that of the Mone tes Choras, there is a small portion of the screen existing against the south eastern wall, just before the springing of the apse, which it may be useful to compare with this as to the detail. But the church of the Mone tes Choras is of the date of the Emperor Justinian, and therefore has only one apse. The screen is later than that now in consideration (Plate XXXV.).

There is, as I have said, very little ornamentation in the church; it depended for ornament upon the marble and probably upon its internal fittings, which have disappeared, but there are two very curious marble slabs built into the west wall (Plates XXXVI. and XXXVII.).

These two are of slightly different designs, and their object is not at first sight apparent. I think they are of later date than the church, and I do not think that the two are of precisely the same date. It will be observed that they



Hanfstaengl & Arnold.

IKONOSTASIS FROM THE CHURCH OF St LUKE AT STIRI.



SOUTH SIDE OF THE APSE OF THE KAHRIEH DJAMI (THE CHURCH OF THE MONE TES CHORAS) AT CONSTANTINOPLE.

are made to imitate closed doors, and I think they probably represent and are the entrances to two places of interment. That it was the practice to bury in the floor of the gallery in the thickness of the vaulting between the floor of the

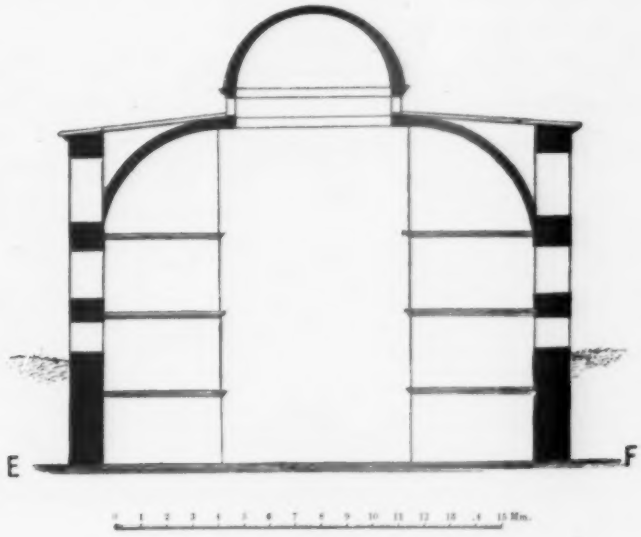


Fig. 4. Mosque of the Kalenders at Constantinople.
Section on line E F of plan.

gallery and the ceiling of the church below is well known, as there are existing examples of this. The best known one is the tomb of the Doge Dandolo, who was buried in the south gallery of St. Sofia. There is a somewhat similar slab of marble exactly in the same situation in the church of St. Demetrius at Salonica, which I think was put there for a similar reason.

It will be seen that the interest of this paper depends upon the illustrations. The paper itself is slight enough, but I must, I think, before concluding it say a few words as to the age of the church and what it was.

Dr. Paspati, who has identified most of the buildings that he in fact rediscovered in Constantinople, has failed in identifying this church. He suggests that it may have been the church of the monastery of Valens. From the ruins and from the extent to which the land has risen in front of the church, I think it quite clear that this was the church of a monastery, and it is quite likely that, if it was possible to excavate in front and at the rear of the church, we should find some traces which might enable us to identify the name of the church. From its

proximity to the aqueduct of Valens, there is no impropriety in calling it by that name, but as to certainty at present it must remain an unnamed church.

The date is more easy to fix. It is, I believe, not earlier than the eighth and not later than the tenth century. This may be gathered from the form of the church and the character of the dome. Had it been later it would have been more like the churches built by Byzantine architects in Russia, who certainly built in the style which was prevalent in Constantinople. It is built in the usual method of Byzantine construction, of stone, with layers of brick.

I grieve to say that since this paper was first written the building has undergone a process of restoration. We all know what an English restoration is, and we have used hard words about church restorers at this Society, but you should see what a Turkish restoration is like.



MARBLE SLAB IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE



MARBLE SLAB IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.

XX.—*The Dolmens and Burial Mounds in Japan.* *By* William Gowland, *Esq.*, *F.S.A., Assoc. R.S.M., late of the Imperial Japanese Mint.*

Read 29th April and 6th May, 1897.

Part I.—Their Structure and Distribution.

The Papers which I have the honour of laying before the Society contain a summary of my explorations and investigations of the dolmens of Japan during a long residence in that country.

We have but little exact knowledge of the mode in which the Japanese disposed of the bodies of their famous dead in the very earliest times. The somewhat vague statements of their ancient traditional records would seem to point to burial or mere deposition on the summits of natural hills as their earliest practice, but the most ancient remains yet discovered have not been found in such localities, but on the lower grounds bordering the plains, and on the plains themselves. These remains, which consist of bronze swords and arrowheads, personal ornaments of steatite, jasper, rock crystal, and other stones, and along with which no objects of iron occur, are generally found at but slight depths below the surface of the ground. It is impossible to say with absolute certainty whether they had or had not been originally covered with mounds of earth. If they had been so covered and the mounds were only of small dimensions, the action of long weathering or the agricultural operations of bygone ages would have amply sufficed to level and destroy them. The mass of evidence is in favour of the belief that low mounds had been erected over them and that the Japanese were a race of mound builders in very early times indeed.

In China, mound-burial was practised at a very remote period, and although implicit credence cannot be altogether given to the specific statements of the early writers relating to this matter, yet broadly considered their testimony doubtless contains some elements of truth. The first burial-mound of which they give a record is the tomb of Hia How Kao,[a] the date assigned to it being 1848 B.C. Several others, which I need not specify, of later centuries B.C. are also mentioned; but, apart from these records, we have very weighty evidence in favour of the extreme antiquity of mound-burial in that country in the use of the ideograph 陵 *ling*, Jap. reading *ryō*, from very remote times to denote a burial mound, its original proper meaning being a high mount or peak. As the civilization of China, even during these times, was probably not without influence on the tribes beyond its frontiers, it is not impossible that the Japanese may have been mound builders before they migrated from their old home on the mainland. Whether this supposition be correct or not, it is certain that the race practised mound-burial, especially in the western parts of the islands they now occupy, several centuries before our era.

That the simple mounds preceded those that contain a rude stone chamber, which we call a dolmen, is also not open to doubt, for associated with them we find the rudest hand-made pottery, and neither this pottery nor the swords of bronze previously mentioned have ever been discovered in dolmens. Stone beads and ornaments, and sometimes bronze arrow-heads are, however, found in dolmens, but then they occur along with weapons and objects of iron and beads of glass. The period of the dolmens is thus a continuation of that of the simple mounds. During the dolmen period, and certainly after it, the building of simple mounds still survived, but sarcophagi of wood, stone, or terra-cotta, of which there are no traces in those of the earliest date, were then used.

As the entire subject of the various modes of mound-burial practised by the Japanese from prehistoric to early historic times covers such a wide field that it could not be satisfactorily treated within the limits of these papers, I propose to confine my remarks to the dolmens only.

It will, however, be necessary for me to mention incidentally a few non-dolmen mounds, and to compare them with the dolmens, more particularly some of the former, which are contemporaneous with them and contain similar remains.

In addition to burial in mounds and dolmens, sepulture in chambers hewn in

[a] Mayers, "On the Stone Figures at Chinese Tombs," a paper read before the North China Branch of the Asiatic Society, 12th March, 1878.

the rock *in situ* was also largely practised by the early Japanese. I first discovered two important groups of these rock-tombs on the western frontiers of Kawachi about fourteen years ago, but subsequently met with them in other provinces in localities where the rocks were easily cut, such as tuffs and decomposed granites. Some, as for example those in Hyūga, may perhaps be of similar age to the early mounds, but those I examined were in all cases completely empty, and the remains found in others in other districts were not of earlier date than the dolmen period, so that it is difficult to speak with certainty on this point.

Standing stones, either single as "menhirs" or in "avenues" or "circles," which are not unfrequent in Europe, Africa, and the mainland of Asia, do not appear to have been ever set up by the early Japanese, as none have been found anywhere in the country. The nearest approach to stone circles is seen on a circular terraced burial-mound near Kyōto, attributed to the Emperor Tenchi (died 670 A.D.), where each terrace is encircled by a low pile of small round stones; also on a mound of earlier date covering a dolmen, near Ashikaga (prov. Shimotsuke), explored by Professor Tsuboi, of the Imperial University Tōkyō, where two belts of large pebbles are similarly placed.

More remote analogues of stone circles, although probably intimately connected with them in symbolical meaning, are the circles of terra-cotta figures which were set up around the summits of the burial-mounds of important chiefs as substitutes for their retainers and wives, who in earlier times were interred alive in the same position; also the rows of large terra-cotta tubes (fig. 11), to be described later, which fringe the peaks, terraces, and moats of many of the larger mounds. These tubes were, however, generally almost completely buried in the ground, although sometimes, and then they were of a different shape, they enclosed as a fence the immediate precincts of the tomb, in the same position as the terra-cotta figures.

Of the simple burial-mounds of earth of the earliest period we know but little, as all have been more or less completely destroyed by the hand of time or in reclaiming land for agriculture. They cannot, however, have been of very large dimensions, as all the remains representing that time have been found, as I have already stated, but shallowly buried in ground either level or only slightly elevated above the surrounding surface. In Yamato these remains consist generally of stone beads and ornaments of various kinds, associated with arrowheads and other articles of bronze. Further westward, in Aki, northern Shikoku, and especially in Kyūshū, bronze swords also have been unearthed. No stone weapons or implements have ever been found, to my knowledge, in any of these ancient burial

mounds in any part of Japan. In fact, all the evidence afforded by the remains tends to show that the Japanese had passed out of their Stone Age before they migrated from the mainland; and the discoveries of the bronze swords and the moulds for casting them, which will be described later, only in the western parts of the country, would seem to support the view that they were then in the last stages of their Bronze Age.

Excepting these earliest mounds all others enclose either dolmens or sarcophagi. Those containing dolmens are generally older than those containing sarcophagi; there are, however, several examples in which both classes are undoubtedly contemporaneous.

Dolmens.

The term "dolmen"[a] is used in these papers in its broad or generic sense, and signifies a stone burial-chamber, generally of rude megalithic structure, larger than a cist, and whether covered by a mound or not. Dolmens are very numerous in Japan, and many hundreds are known to me. Of these I have carefully examined 406, and made drawings of or measured 140. It would hardly be profitable were I to attempt to describe or even enumerate all these, I hence propose to notice only the chief types of the principal groups, to point out their most important features, and to refer to Table I. for the details of these and others, which can be studied at leisure by any who may wish to pursue the subject further.

Distribution.

Their distribution in the country is shown in the sketch map (Plate XL.). From this it will be seen that they occur in more or less scattered districts, chiefly in the basins of the greater rivers, on the margins of the more important plains, and

[a] I follow the practice of most continental authors in this use of the word "dolmen." The following writings of some distinguished archaeologists, in which the word is used in the above sense, may be cited:

G. de Mortillet, *Matériaux pour l'histoire primitive et naturelle d l'homme*, xiii. 412 *et seq.*

J. de Morgan, *Mission Scientifique en Perse*, 1896, p. 56 *et seq.*

Prof. N. Joly, *Man before Metals*, 1883, p. 147.

Prof. E. S. Morse, "Dolmens in Japan," communicated to the Boston Society of Natural History, 1879.

And Herr Dönitz, *Verhandlungen der Berliner Anthropologischen Gesellschaft*, 1887, p. 114 *et seq.*

near the coasts of the Inland and Japan seas. To a lesser extent they are found far inland, as in the provinces of Ōmi, Mino, and Shinano.

Their eastern limit is practically the north-eastern frontier of Musashi and the east of Shimotsuke, but a small group is found a little further east in Iwaki just beyond the border of the latter province. Beyond this they have not yet been discovered. Westwards they extend to the shores of the straits which separate Korea from Japan. From this distribution we may infer that during the period of dolmen-building the occupation of the country by the Japanese was mainly confined to these districts, and that the extreme north-east and parts of the wild forests and mountain tracts of the interior were still held by the aborigines; and this is confirmed by the occurrence of the aboriginal stone weapons beyond the dolmen groups in Mino and Shinano, and other provinces, and in largely increasing quantities as we proceed to the northern extremity of the island.

The districts in which the dolmens are most numerous are a tract around the junction of the provinces of Kōtsuke, Shimotsuke, and Musashi; in Kawachi and Yamato; and in the northern parts of the island of Kyūshū.

The provinces of Settsu, Bizen, and Tosa are also notable for their abundance, whilst Izumo, Hōki, Tamba, and Higo are famous besides for examples specially remarkable for their structure or for the extensive remains which some have contained.

The dolmens usually occur in groups of from twenty to eighty or more. Single dolmens are rare, and where found are invariably the survivors of a group the other members of which have been destroyed.

The situations in which they are generally found are the lower flanks of a mountain range, and the crests and slopes of the lower hills and upland tracts which bound the plains. Sites commanding distant and extensive views seem to have been preferred. In many groups they are placed so closely together that their mounds touch one another or even coalesce, but more often they are scattered over the hill sides and their summits at distances of ten, fifty, or even more yards apart.

Forms of Japanese Dolmens.

Japanese dolmens may be arranged in four great typical classes according to the general form or plan of their interiors, beginning with the most simple and ending with the most highly differentiated structures.

It must, however, be borne in mind that such an arrangement does not necessarily represent the relative age of each class, as although doubtless the complex forms were evolved from the simple forms of an earlier age, yet some of the latter, even of the rudest structure, range through almost the whole dolmen period.

In figs. 1—4 are represented in outline diagramatically a ground plan and longitudinal vertical section of the interior of each of these four typical classes.

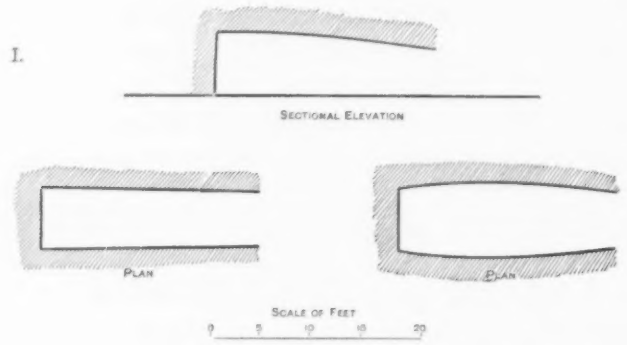


Fig. 1.

Class I. The *allée couverte* types of dolmens, which consist of long galleries with more or less parallel walls and do not possess a separate chamber.

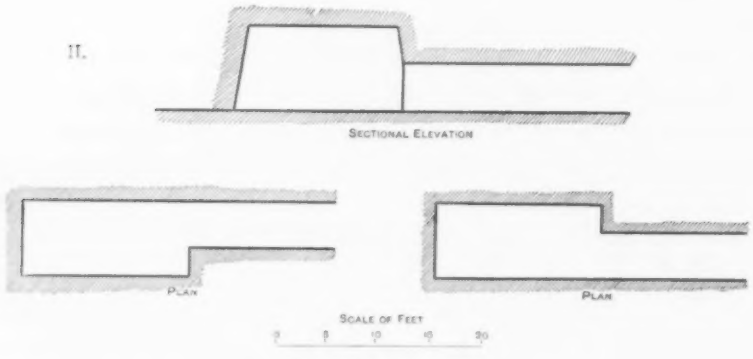


Fig. 2.

Class II. Dolmens which have a distinct chamber and gallery, in which one wall of the gallery is in a line with one wall of the chamber.

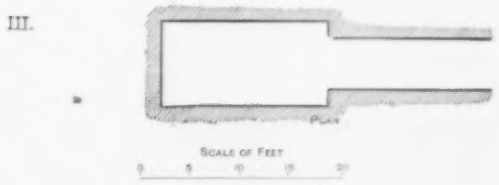


Fig. 3.

Class III. Dolmens having a more complete chamber than the last, with the gallery entering the chamber on the median line. The sectional elevation of these dolmens is the same as that of Class II. (fig. 2).

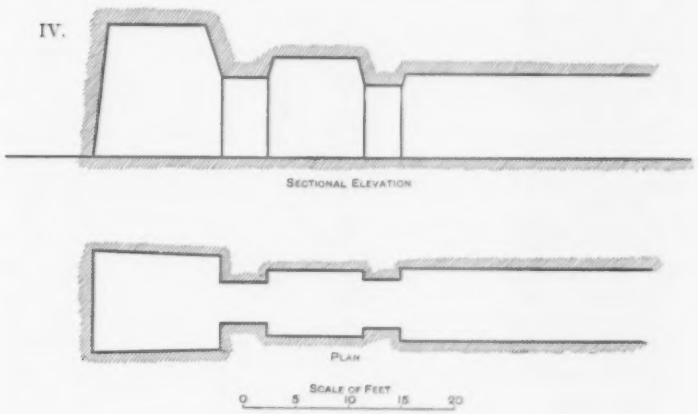


Fig. 4.

Class IV. Dolmens containing two clearly defined chambers.

In addition to the above types there are also a few exceptional forms.

There are no so-called "free standing" dolmens in Japan, *i.e.* no dolmen which originally was not covered with a mound, or which was not intended to be so covered. It is true, however, that many at the present time are partially or almost completely exposed, but in all these cases, even in the few in which but traces of the old mound remains, it can be shown incontestably that they had once been covered by one.

The "cromlech," *i.e.* a huge flattish stone resting on three stones set upright, of which we have so many examples in Great Britain, is not represented in Japan excepting where a group of dolmens has been long used as a quarry for building stones.

The Structure of Dolmens.

All the dolmens of Classes I. and II., and generally those of the others, are constructed of rude unhewn blocks, often weathered boulders just as taken from the mountain sides; but in some localities, where, there is an outcrop of suitable rock, some or all of the stones seem to have been roughly quarried, their natural shapes due to geological jointing and bedding being preserved. In other cases they appear to have been broken, although in only three instances have I found the marks of the wedges used in splitting them. Frequently when one of their surfaces is flat they are placed with that side inwards. The stones are laid in the walls very rudely, according to their shapes, the large interstices between them being filled with others of smaller size. Traces of a clay filling are sometimes found in the narrower joints, but no mortar or calcareous cement was ever used.

In many dolmens the sides are built roughly parallel, but sometimes gradually widen out about the middle of their length, and generally converge towards the mouth. They are always inclined inwards towards the roof, so that this is usually from one to four feet narrower than the floor. The roof has often a more or less downward slope towards the entrance.

The walls are very often, yet not always, megalithic, but whatever their structure may be the roof stones are always huge and ponderous. The capstone over the entrance to the chamber, and one or more stones in the back wall, are also often of very large dimensions. The walls even of those of comparatively late date, are never plastered or coloured, but the surfaces of the stones are left entirely bare. No stones bearing inscriptions, ornamental designs, or "cup-marks" have ever been found in any dolmen.

Besides these rude stone structures, dolmens carefully built of hewn blocks also occur; they are, however, not common, are usually of Class III., and will be described with the examples of that type.

The structure of the great majority of dolmens is well illustrated in Plates XXXVIII. and XXXIX., and figs. 5, 6, and 8.

Fig. 5 represents the interior of a dolmen at Tsukahara (Settsu) (Table I. No. 98). The chamber measures 14 feet 8 inches long, 5 feet wide, and 7 feet high, and is entered through a gallery 11 feet long. It is built entirely of more

or less weathered boulders, and, although of Class II., represents accurately the structure of the rude forms of Class I. The convergence of the walls



Fig. 5. Interior of Dolmen at Tsukahara (Settsu).

towards the roof is well seen in this example. It is covered by a simple conical mound.

Fig. 8. A dolmen at Abe-mura (Yamato) (No. 129 in Table I.) of still larger stones than the preceding.

Plate XXXVIII. fig. 1. The interior of a dolmen at Hattorigawa (Kawachi). This photograph was taken from the interior looking outwards, to illustrate the massive lintel stone and the large block forming the right boundary of the chamber.

Plate XXXVIII. fig. 2. A dolmen in the same group as the last, showing its entrance, the mound by which it is covered, and the roof of its chamber cropping

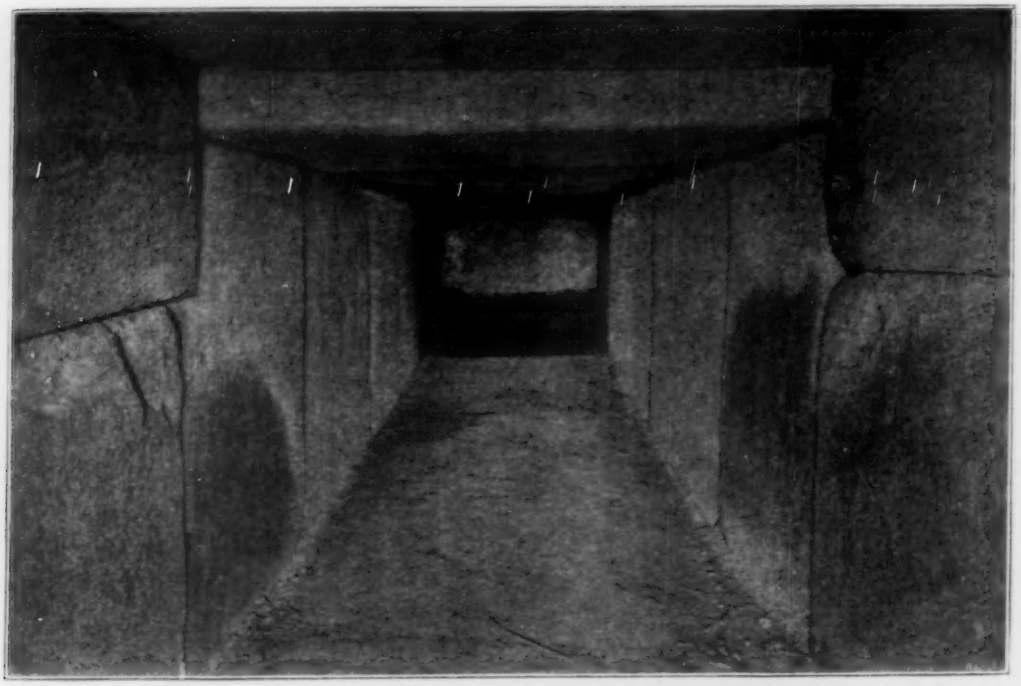


Fig. 6. Interior of Dolmen at Koshi (Yamato). (See fig. 13.)

out from the summit of the mound. Most dolmens in conical mounds closely resemble this in external appearance.

Fig. 6. The interior of a hewn-stone dolmen at the village of Koshi (Yamato).

Plate XXXIX. fig. 1. An external view of a dolmen at Myōhōji (Kawachi). The inner surface of the stones of this dolmen are all carefully dressed, the outer being left in their natural state.



FIG. 2. EXTERNAL VIEW OF DOLMEN AT HATTORIGAWA (KAWACHI), JAPAN



FIG. 1. INTERIOR OF DOLMEN AT HATTORIGAWA (KAWACHI), JAPAN

Plate XXXIX. fig. 2. The exterior of a dolmen at Dōmyōji-yama (Kawachi), from which the greater part of its mound has disappeared. The capstone of the chamber measures 10 feet in length, 8 feet 6 inches in breadth, and 6 feet in thickness.

Here I should like to say, by way of caution, that the rudeness of structure seen in certain groups of dolmens in Japan does not necessarily indicate extreme antiquity, as it is so largely dependent on the nature of the rocks in their vicinity. Thus for example, in the province of Ōmi, where the granitic rocks are so jointed that the blocks lying on the hill sides are in the form of huge slabs, we find the dolmens with well-built walls. In other provinces, where weather-worn rounded blocks of granite, or angular masses of palæozoic rocks alone are available, dolmens with narrow chambers or walls of the rudest construction only occur, as with such materials no other structure was possible. Yet the latter are not older than the former, as they all contain similar remains. One which I found near Tsukahara (Settsu) was of an elongated beehive shape, simply because rolled stones from the bed of the adjacent river were used for its walls, and this was the easiest form to construct with them.

Some characteristic types of each of the four classes of dolmens will now be considered.

Class I.

These dolmens, as will be seen from fig. 1, are simply covered galleries without a specially defined chamber, a form common in France and on the west of the Caspian Sea. Although they are never built of hewn stones, they are not of ruder structure than many of the higher forms of the other three classes, and are certainly often contemporaneous with them.

One which I found near Hamada (Iwami), (Table I., No. 22) is a good representative of this class. It is covered by a conical mound which rises about 9 feet 6 inches above the inner surface of the roof. Its stones are all rough excepting one, and this has been rudely recessed to allow another to fit into it. None are very large, the largest being one of the roof stones (9 feet by 7 feet by 2 feet 6 inches).

The dimensions of the dolmen internally are: length, 21 feet; breadth at back, 5 feet 9 inches, diminishing to 5 feet at the mouth; height, 5 feet to 5 feet 9 inches.

According to the villagers, it has always been standing open, and I hence found nothing in it.

This form of dolmen I have also met with in the provinces of Mino, Kawachi, and Bizen, and one was reported to me in Toza. (*See* Table I.)

Classes II. and III.

The dolmens of these classes may be conveniently studied together as they are found intermingled in nearly every important group. In all we have a more or less well-defined approximately rectangular chamber, longer than broad, entered through a gallery of varying length. In Class II. either the east or the west wall of the chamber is in a continuous line with one wall of the gallery, the division between chamber and gallery being only marked on one side. In Class III. there is a perfectly distinct chamber, the gallery entering it on the median line.

This division between chamber and gallery is formed not only by stones projecting from one or both walls, but also by one of the roof stones, generally of a very massive character, being placed at a lower height than the others, and so forming a rude lintel over the entrance to the chamber (figs. 9 and 14 and Plate XXXVIII. fig. 1). The height and breadth of the entrance so formed is in most cases not much less than those of the gallery. Dolmens with a gallery continuous with their west side are seldom seen, whilst the opposite form is common.

Those with a perfect chamber (Class III.) are by far the most numerous of all in every province of Japan excepting Kawachi, where there seems to have been a preference for the one-sided form, not however to the complete exclusion of the other.

All the dolmens of Class II. which I have explored are, with one exception in Izumo, of the same rude structure that I have already described; but those of Class III., whilst being also generally rude, are sometimes built of well-hewn blocks. In the capacity of their chambers neither class differs much from the other, although the largest I have found is one of Class III.

The orientation of Japanese dolmens generally may be conveniently described here, as it is well illustrated in these two classes. In common with the rude stone monuments of other races, they are built as a rule in a definite direction, and, whether they occur singly or in groups, have almost always an approximately southern aspect. (*See* Table I.)

In most provinces, especially Kawachi, Yamato, Tamba, and Bizen, great importance appears to have been attached to this aspect, as I have observed there so many examples in which, in order to obtain it on the slopes of some of the



FIG. 1. FRONT VIEW OF DOLMEN AT MIYŌHŌJI (YAMATO), JAPAN



FIG. 2. DOLMEN AT DŌMYŌJI-YAMA (KAWACHI), JAPAN

hills, the difficulties of construction must have been enormous, whilst with another bearing there would have been none. But even in these provinces there are one or two dolmens in some groups in which there is a departure from the general rule, the reasons for which are not evident. On reference to Table I. it will be seen that seven in all are noted,[a] six of which have approximately western aspects, and one bears N.N.E. In Hōki and Izumo three are directed towards W.S.W.

The province of Iyo is exceptional; there there is no uniformity, and they face almost every point of the compass. (Table I. Nos. 28 to 35.)

The reasons which have been advanced for the southern aspect of tombs are well known to archæologists, and need not be adduced here. I may, however, say briefly that in Japan its origin has probably some basis on the ancient sun-worship, of which there are many survivals in the country. The influence of the sun was believed to be beneficent to the spirits, hence these chambers of the dead were directed towards its meridional position.

The dolmens of Class II. are covered by mounds which are generally of simple form. Those of Class III. are found in mounds of every kind.

The mound which is of most frequent occurrence is of a simple conical shape, rising from a circular or oval base, sometimes with a flat top, and often so much weathered that it barely covers the dolmen, the capstone of the gallery mouth, and part or even the whole of the roof, and occasionally the walls, of the chamber being exposed. These mounds vary in diameter from about 15 feet in some of the diminutive dolmens of Mino to about 90 or 100 feet in those of larger size in Kawachi and elsewhere. All I have examined are composed of the earth of the locality excepting at Matsushiro (Shinano), where there is a large cairn (height 23 feet, diameter 105 feet) of angular stones, without earth, which is said to contain a dolmen.

In these simple mounds, and in these only, except in a few rare cases, the floor of the dolmen is on the same level as the natural surface of the ground in front of it. In all others it is raised to a greater or less height above it.

In fig. 7, is given a sectional elevation and a plan of a dolmen of Class III. covered by one of these conical mounds. This dolmen is situated on the lower slope of the range of hills near Shiba (Kawachi), a little to the north of the chief dolmen groups of the province. It is of considerable interest, as I obtained from its chamber an important collection of metallic and other objects, which are now in the British Museum and will be described subsequently.

The long diameter of the mound measures 94 feet. Its top rises about 5 feet

[a] Table I. Nos. 5, 50, 51, 79, 107, 111, and 120.

above the inside of the chamber roof. The chamber is somewhat irregular in plan, exhibiting a departure from the normal approximately rectangular form, one side being 13 feet 8 inches long, and the opposite only 11 feet 8 inches, and the back 10 feet 5 inches wide, whilst the front is only 7 feet 11 inches. Its height is 10 feet 3 inches.

The walls are built of rough stones from the hill side of varying sizes and shapes very rudely fitted together, leaving large gaps between them which are filled with smaller stones. They converge more than is usual towards the roof, hence three stones of only moderately large size suffice to cover it.

A pavement of flat irregularly broken natural slabs forms the floor of the

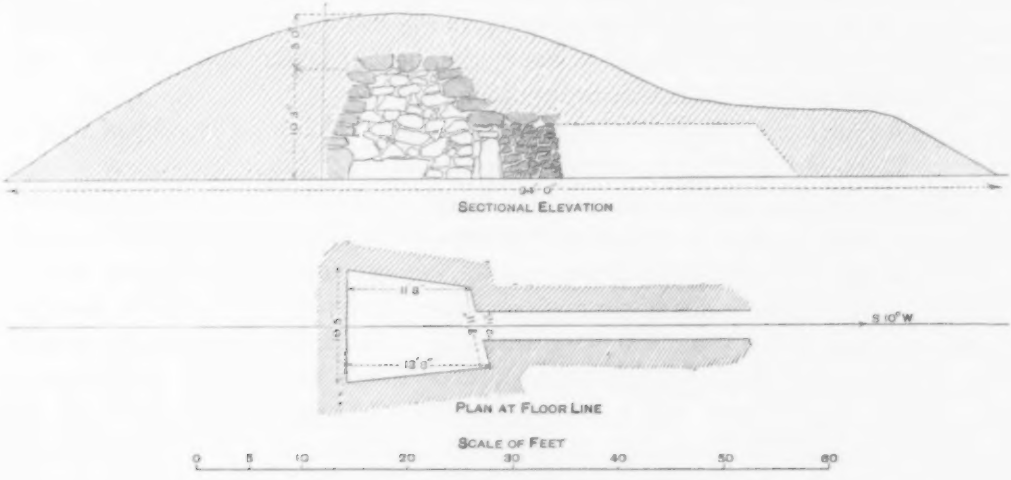


Fig. 7. Dolmen at the village of Shiba (Kawachi).

chamber, a feature of uncommon occurrence. Generally the floor of a dolmen consists simply of the ground on which it is built, or of one or more layers, several inches in thickness, of waterworn stones or pebbles spread over the entire bottom of the chamber. In a few I have found remains of a bed of beaten clay of such hardness that it seemed to be a kind of cement, but on analysis it yielded no lime.

The gallery, which is about 24 feet long, 5 feet high, and 3 feet wide, enters the chamber at the middle of the south end. It is closed here by a wall of stones, not less than 5 feet in thickness, built across it. I may say here that I obtained access to the interior of this dolmen through a gap below one of the roof-stones, and after completing my exploration of the chamber I attempted to explore the gallery, but

on removing about 4 feet of the stone wall the end of the chamber began to collapse and operations had to be suddenly suspended. In other dolmens I have found a similar wall built across the gallery to prevent access to the chamber.

In a large dolmen at Enya near Imaichi (Izumo) this wall is constructed of hewn blocks laid between the portal stones at the junction of the chamber and gallery; whilst at another, also in Izumo, it is built of round stones 8 or 9 feet distant from the same point. In rare cases the mouth of the gallery was closed by a single large stone. At the present time most are open or full of earth only.[a]

Whether a dolmen was allowed to stand partially open or not for some time after the body had been placed in it cannot be determined with absolute certainty, but the position of the above wall, as well as the well-defined step in the roof of the gallery of some, would seem to mark off part of the gallery for a special purpose.

The occurrence too in this part of ceremonial vessels in many dolmens, and of a second chamber in others, tend to support the view that partial access was possible for the presentation of offerings and libations to the manes of the dead subsequent to the performance of the funeral rites. Similar offerings seem to have been made still later outside the mound, as fragments of the same pottery are not unfrequent there. At the present day these ceremonial rites in honour of the dead still survive in the prayers and sacred dances accompanied by offerings of the products of the mountain, river, and sea which are held periodically in front of some of the imperial burial-mounds.

Another example of Class III. is a megalithic dolmen, containing a stone sarcophagus, near the temple Monju-in at Abe-mura (Yamato) (Table I. No. 129). In the grounds of the same temple are two others, one of which is built of hewn masonry.

This dolmen (fig. 8) is a fine specimen of megalithic structure, and is one of the few remaining in this province which still contain a hewn stone sarcophagus. Several of the stones both of its walls and roof are of a very large size; the hinder roofstone being about 10 feet long by 11 feet broad, and one or two others are of similar dimensions. The total length of the dolmen from its entrance to the back wall of the chamber is $38\frac{1}{2}$ feet; the chamber being 14 feet 8 inches long, 8 feet 3 inches broad, and 6 feet 11 inches high; and the gallery 23 feet 9 inches long, 6 feet 5 inches broad, and 5 feet 3 inches high.

[a] In a dolmen at Ashikaga (Shimotsuke) opened by Prof. Tsuboi, access to the chamber had been effectually prevented by filling it up to the roof with small round stones.

In the middle of the chamber, placed longitudinally, is a sarcophagus of carefully hewn stone (Table II. No. 26), the coffer and the cover being each cut out of a single block. The former, measured externally, is 7 feet 10 inches long, 4 feet 9 inches broad, and 3 feet 1 inch deep. I was not allowed to remove the cover, so that its internal capacity is doubtful, but if we compare it with others I have measured (Table II.), the cavity for receiving the body would be approximately 6 feet 2 inches long, 3 feet 1 inch broad, and 2 feet 1 inch deep. Both coffer and cover are of a very ponderous character. The cover alone, which overlaps the coffer about $1\frac{1}{2}$ or 2 inches, and is 2 feet 1 inch in thickness, is not

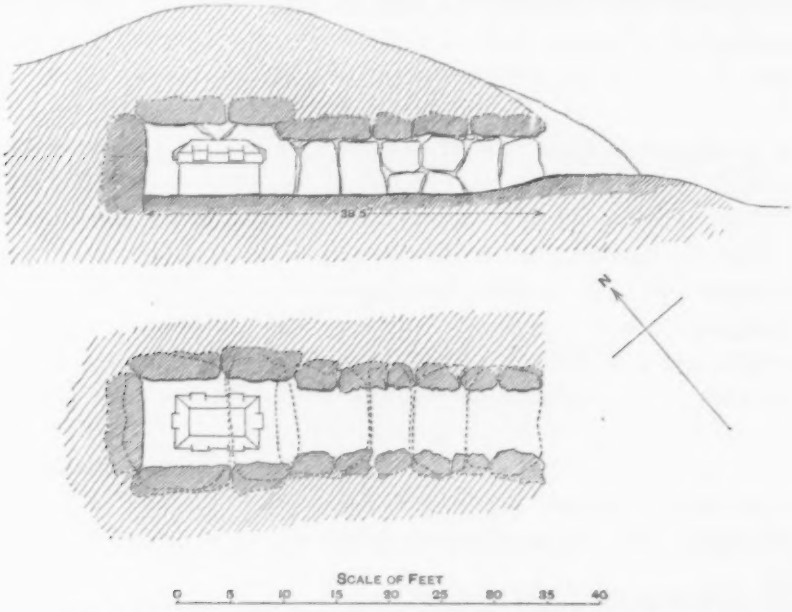


Fig. 8. Dolmen containing a hewn-stone Sarcophagus at Abe-mura (Yamato).

less than 4 tons in weight. The projecting lugs seen on its sides and ends are intended for the attachment of ropes for lowering it into position.

Burial in stone sarcophagi placed in the chamber of a dolmen seems to have been not infrequent, and although I have only found twenty-four (Tables I. and II.) in all the dolmens I have explored, yet doubtless many, especially those of less massive character, have been removed by the farmers and broken up for building stones. In two places, in fact, I have found their covers used as bridges, but no trace of their coffers.

This sarcophagus is a typical specimen of the Japanese stone sarcophagi which are hewn out of solid blocks, although in dimensions and a few details of

construction we find considerable variations. Other stone sarcophagi constructed of hewn slabs are also found in dolmens, but they are of less frequent occurrence than the preceding. Besides these others of wood and terra-cotta were also in use.

In a rude megalithic dolmen at Mi-no-hara (Settsu) I found two sarcophagi (Table II. Nos. 21 and 22) in its chamber, one being of hewn blocks and the coffer of the other of hewn slabs, so that both forms were contemporaneous. In the chambers of the dolmen at Imaichi (fig. 14) there is also one of each type.

Particulars of these sarcophagi and of others I have found are contained in Table II.

All the dolmens I have thus far described are contained in conical mounds

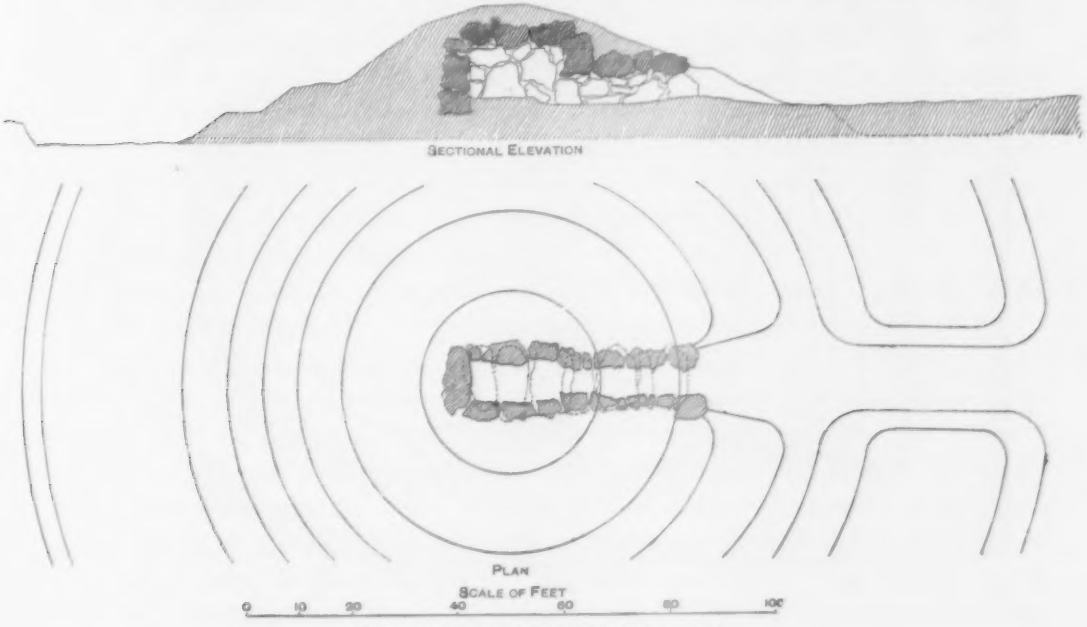


Fig. 9. Dolmen at Andogahashi (Yamashiro).

with straight sloping sides, but this simple form of mound is sometimes departed from probably on account of the rank of the person buried in the dolmen chamber. In these cases, whilst the general conical form is preserved, the sides are not straight, but are formed of one or more well-defined terraces. These mounds are usually of large size varying from about 80 to 200 feet in diameter, and from 20 to 25 feet in height. They are frequently surrounded by a moat, and sometimes have a rectangular base. A typical specimen with two terraces, with the dolmen contained in it, is represented in fig. 9. It is situated at Andogahashi (Yamashiro),

forming one of a group of about sixteen dolmens which are scattered around the village. The long diameter of the mound is 132 feet, its short diameter 124 feet, its height 25 feet, and it is surrounded by a moat 28 feet wide.

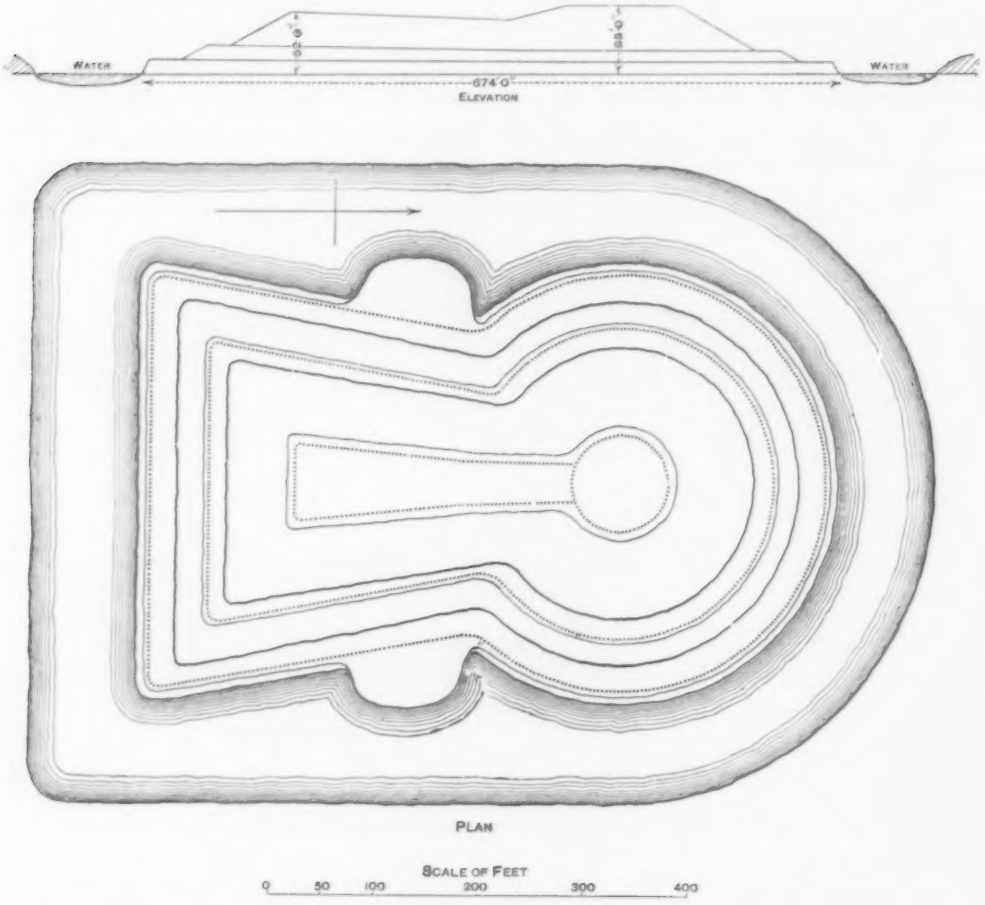


Fig. 10. Double Mound near Nara (Yamato). (The dotted lines on the plan represent the positions of the rows of terra-cotta tubes.)

The dolmen (Table I. No. 115) is of Class III., rudely built of irregular unhewn blocks of a hard palæozoic clay slate. In its walls and roof there are several megalithic boulders; one of which is the lintel stone. The total length of the dolmen from its entrance to its back wall is 44 feet, its chamber being 18 feet long, 8 feet 5 inches broad, and 11 feet 4 inches high, and its gallery 26 feet

2 inches long, 5 feet 2 inches broad, and 5 feet 8 inches high. Its floor is on the same level as the top of the first terrace. No traditions are attached to it, although it is the most important dolmen in the province, and according to the villagers it has always been open and nothing has ever been found in it.[a]

Another class of mounds, generally known as "imperial burial-mounds," and sometimes containing dolmens, is of more than usual interest, as, so far as my knowledge goes, no mounds even remotely resembling them occur in any country except Japan. From their form they may be not inaccurately termed "double" mounds, although they never contain more than one dolmen Unlike those we have already considered, they are almost always situated on the plains, a few only being found on the level parts of upland plateaus. Fig. 10, which is drawn from my surveys, represents a typical one in the neighbourhood of Nara (Yamato). Although it is of considerable size it is not one of the largest, yet I have selected it for description, as it is in a better state of preservation than any others I have seen. I was also able to go upon it and make careful measurements, as it had not, until I called attention to it, received official recognition as an imperial tomb; whereas in other cases this was prohibited, and I had then to make my observations from outside the moats.

As seen in plan it appears to consist of a circular mound combined with another intermediate in form between a triangle and a square. But as there are no triangular mounds in Japan, and no symbolic use of the triangle until comparatively late times, I think, the form may be regarded as a combination of a circular with a square mound. This curious shape is doubtless not without symbolic meaning, yet Japanese archæologists have not been able to give any satisfactory interpretation of it. The circular end rises in the form of a truncated cone forming a flat peak 113 feet in diameter at its summit, and this is always the highest part of these mounds. The square end, on the other hand, has no distinct peak, its summit being an inclined plane also flat, about 215 feet long, rising at a gentle angle from the inner slope of the conical peak and terminating

[a] The other typical examples of dolmens with terraced mounds which I have examined are the following, all with only one terrace:

At Ōkamedani (Yamashiro) (Table I. No. 116), mound 74 feet long diameter, 20 feet high. No moat.

At Tsuma-machi (Hyūga) (Table I. No. 18), mound 126 feet long diameter, 20 feet high. Moat 35 feet broad.

At Habikiyama (Kawachi), mound 210 feet long diameter, 196 feet short diameter, 25 feet high. Moat 48 feet broad.

in a long straight edge, 90 feet long, at right angles to the middle line of the mound.

Some of these mounds, especially when seen from a distance, appear to have two peaks, and from this feature the name "futa-go.yama" or twin hills[a] has been applied to them, but on examining them closely I have always found that there was only one original peak, and that the other had been formed by the excessive weathering of the narrower part of the square end.

The word 皇陵 *Misasagi* (or *Teiryō* Ch.), is often applied to them as a specific name, but this is not strictly correct, as its meaning is merely "imperial mausoleum," and in that sense is used for all imperial tombs of whatever form, whether they are mounds or not.

The burial, whether in a dolmen or sarcophagus, invariably took place in the round part of the mound. In the square part no remains of any interment have ever been found, but on its surface, fragments of ceremonial vessels sometimes occur, indicating that some of the funeral or subsequent rites were celebrated there. The chief dimensions of this mound are as follows:—

Total length of base	674 feet
Extreme breadth of square end . . .	425 „
Diameter of round end	420 „
Height of conical peak	65 „
Height of terminal edge of square end . .	52½ „

The relative proportions which these measurements bear to one another differ in nearly every one of these double mounds, so that, although they are all of the same fundamental type, yet in exact outline and plan they present considerable variations.

They have usually terraced sides. In the example shown in the diagram there are two well-formed terraces completely encircling it. In some smaller mounds there is only one terrace or none, but in those of the largest size there are often three, sometimes four.

[a] Other names by which they are popularly known are:

Hyōtan-yama = Hill resembling a bottle gourd.
Samisen-dzuka = Mound of the shape of a Japanese lute.
Cha-usu-yama = Hill of the shape of a mill for grinding tea.

At the re-entering angle on each side, a projection, about 55 feet broad, now generally of irregular form, but probably originally semicircular, extends from the lowest terrace into the moat, and upon this there is generally a low circular mound.

The moat has an average breadth of 100 feet, and completely surrounds the mound. Nearly all these double mounds possess a wide moat, although some from their position on sloping ground are not surrounded by one. Others, as the huge mound of the Emperor Nintoku (Izumi), and another also of vast size, near Fujiidera (Kawachi), had two moats encircling them. Around the outer embankment of the moat of several of the larger mounds small conical mounds are ranged at varying distances apart.

A curious feature which they all possess is the rows of terra-cotta tubes, termed *haniwa*, with which the borders of their summits, terraces, and moats are fringed. One of these tubes is represented in fig. 11. It is 1 foot 1 inch to 1 foot 3 inches in diameter, 1 foot 5 inches long, and about $\frac{1}{2}$ to $\frac{3}{4}$ inch thick, and is strengthened by three horizontal ridges encircling it. Two holes, 2 inches in diameter, are pierced in it opposite each other near its middle.

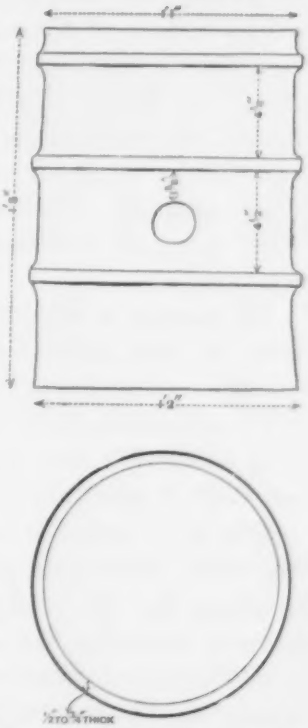


Fig. 11. One of the terra-cotta tubes on the Double Mound near Nara.

In each row these tubes are set upright, from 3 to 6 inches apart, with the holes at right angles to the mound, and are almost completely buried in the earth, about an inch or so only being exposed. On this mound the row which encircles the entire summit is 8 feet, that on the upper terrace only 4 feet from the edge. On the lower terrace the tubes are exposed, and are being washed away by the water of the moat. The total length of the rows, if placed in a straight line, would exceed $1\frac{1}{3}$ mile, whilst the number of tubes, at the lowest possible computation, is not less than 4740, exclusive of those on the outer embankment of the moat.

It is difficult to determine, with absolute certainty, the exact intention of the early Japanese in using these rows of terra-cotta tubes. It may be that they were placed in the positions we have seen, for structural reasons, to aid in preserving the form of the summit and terraces of the mound and the embankment of the moat

from being destroyed by weathering, but, if so, it is not obvious why they were ever buried as far as 8 feet from the edge they were intended to protect.

On the other hand, as I have already advanced, they may have been intended to represent the retainers who in earlier times were immolated on the mound, but to this it may be objected, that they would then have borne at least some rough resemblance to the human form, or some indications that they represented it. They occur, too, on mounds upon which rude terra-cotta human figures (figs. 40, 41) have been found along with them. Possibly there may be some truth in both suppositions.

The largest double mounds are situated in the provinces of Izumi, Kawachi, and Yamato, but many others of smaller but still imposing size I have also found in the provinces of Kōtsuke, Settsu, Hōki, Izumo, Yamashiro, Bizen, and Hyūga. They vary in dimensions from a diminutive example, Yoroidzuka, "the armour mound" in Hyūga, only 125 feet long and 18 feet high, to the stupendous piles officially recognised as the tombs of the Emperors Nintoku[a] and Richū[a] in Izumi, and Ōjin[a] in Kawachi, none of which are less than 1,200 feet in length and 60 feet in height. The first of these three is specially noteworthy for its vast extent, being about 90 feet high, and with its moats, covering about 80 acres of ground.

The manner in which the dead were disposed in these double mounds is by no means uniform. The greater number do not contain a large chambered dolmen, but only a sarcophagus of stone or wood not very deeply buried in the round peak. This I have found in some cases surrounded with a low wall of stones, over which larger slabs were laid; in others these walls are wanting, and huge boulders then seem to have been simply placed over the coffin.

One of the largest and most noteworthy of those containing a dolmen (fig. 12) is situated in the village of Mise, in the most classic region of the province of Yamato. The vast proportions of this mound, and the magnitude of the dolmen within it, exemplify well the importance which the early Japanese attached to the sepulture of their illustrious dead. It is much dilapidated, as, with the exception of the irregularly rounded mound which originally formed its eastern peak, it has been long under cultivation and is entirely clothed with terraced fields. Yet, on

[a] The approximate dates of the deaths of these emperors, according to Japanese records, are as follows:

Ōjin 310 A.D.
Nintoku 399 A.D.
Richū 405 A.D.

account of its vast bulk, agricultural operations have failed to destroy altogether the chief features of its original form.

The mound, when first erected, cannot have been less than 1,000 feet long and 600 feet broad, although now it is slightly smaller, and the peak is 84 feet high. Fig. 12 represents it in longitudinal elevation, and in transverse sectional elevation through the dolmen, and brings very forcibly before us the comparative insignificance of the dolmen when contrasted with the vast dimensions of the mound.

The dolmen is situated below the round peak and lies within the mound at right angles to its long axis, on a level with the second terrace, and 20 feet above the present ground line. This, with rare exceptions, is the position occupied by

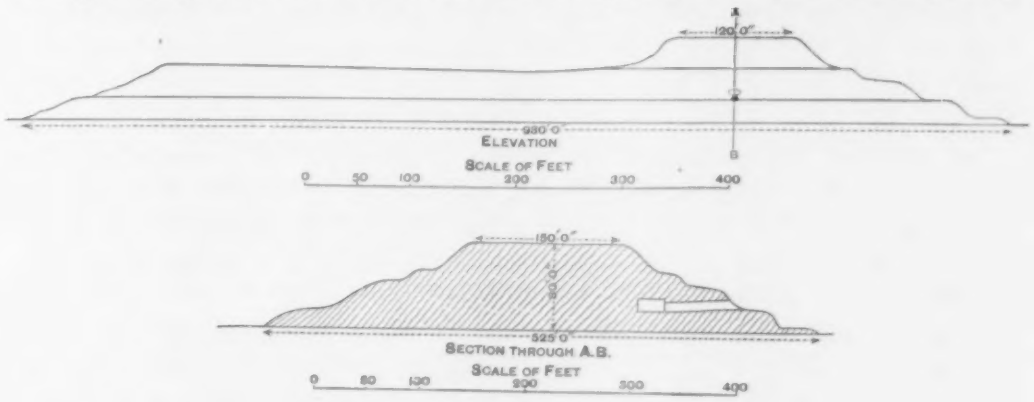


Fig. 12. Double Mound at Mise (Yamato).
In the elevation the entrance of the dolmen is seen in the side of the mound below the peak.
The transverse section shows the position of the dolmen within the mound.

dolmens in all mounds of this form. It is the largest dolmen I have found in Japan. The gallery is about 60 feet long, 8 to 10 feet high, and of variable breadth of from 4 to 8 feet. Its roof consists of six huge undressed stones, one of which is 16 feet long. Its walls are built of similar cyclopean blocks, all of the rudest irregular forms. I was, unfortunately, only able to penetrate about 40 feet into the gallery when the depth of water and mud which had accumulated in it became too great for any further advance, so that I did not reach the chamber, but, so far as I could see it, it seemed to be of the same structure as the gallery. There are two sarcophagi of hewn stones within it, one placed transversely against the back wall and another longitudinally near the middle; a portion of the cover of the latter only was just visible above the water. The dimensions of the chamber are

given in the *Sei Sekki Dzu Shi*[a] as, length about 24 feet, breadth 18 feet. These measurements, however, must be received with some reserve, but the chamber is certainly a large one.

For some time it seems to have been recognised as the tomb of the Emperor Mommu (died 686 A.D.) and the Empress Jitō (died 782 A.D.), but there are no grounds for such attribution, and it is without doubt of a very much earlier time, probably not later than the beginning of our era.

The smallest double mound which I have found containing a large chamber is one of a rather extensive group of dolmens with simple mounds which is scattered over the lower slopes of Mount Kazuraki, near the village of Teraguchi (Yamato). The mound is 167 feet long and 32 feet high. The dolmen (Table I., No. 123) is the largest in the group, and both gallery and chamber are of rude megalithic structure. Its total length is 46 feet 6 inches, the dimensions of its chamber being: length, 20 feet 6 inches; breadth, 9 feet 10 inches; height, 11 feet 9 inches; and of its gallery: length, 26 feet; breadth, 5 feet 10 inches; height, 6 feet 10 inches. Its position in the mound is abnormal. In common with all others it is situated below the round peak, but, instead of being at right angles to the long axis of the mound it is in a line with it. Fragments of the same pottery which is found in the normal forms also occur in it, so that it may be regarded as being contemporaneous with them.[b]

That the large double mounds are the tombs of men of the highest rank or of pre-eminent power is, I think, not open to doubt. None else could have been honoured by the erection of burial mounds of such stupendous size and extensive area. Their vast bulk implies the labour of many hundreds of men for a considerable time for their construction, and this only a chief with supreme power could command.

According to Japanese archæologists, the earliest is the tomb of the Emperor Annei (c. 4th century B.C.), and the latest that of Bidatsu (died 585 A.D.). Whilst not accepting the strict accuracy of these dates, there seems to be no reason to doubt that several are as early as one or two centuries before our era,

[a] A Japanese treatise on burial-mounds and tombs, published 1853.

[b] Several examples of dolmens in large double mounds intermediate in size between those just described occur in other provinces; of these the most important I have examined are the burial mound attributed to the Emperor Keitai (died 531 A.D.) at Otā (Settsu), one near Imaichi (Izumo) which will be considered later, and another near Ōmuro (Kōzuke) (Table I. No. 81). The last had been previously visited by Sir E. M. Satow, who gave an account of it in the *Transactions of the Asiatic Society of Japan*, viii. 313.

and that they continued to be built for five or six centuries afterwards. During this range in time nearly all the emperors, who are mentioned in the ancient books, the *Kojiki* and the *Nihongi*, and many others whose names are not recorded and whose existence has been forgotten, were probably buried in these double mounds. But, as I have already pointed out, I have also found these mounds of imperial form in the important dolmen districts of Izumo, Hōki, Bizen, Kōtsuke, and Hyūga, which are remote from the central provinces the seats of the recognised emperors. This would seem to indicate that these regions were once independent centres, or were governed by chiefs who were regarded as equals with the central ruling family.

According to the statements of Japanese records, the care of the Imperial tombs was intrusted to special resident officers from very early times, a custom surviving at the present day. But the appointment of custodians was frequently discontinued, sometimes for a considerable time; the mounds were then neglected, and their sanctity was disregarded, and it is probably owing to this that many are now under cultivation, and, with numerous others, are not recognised as imperial tombs. Yet, notwithstanding these breaks in the regular succession of custodians, it is not unreasonable to suppose that the most important mounds, those which from their imposing size form such conspicuous objects on the plains, would not altogether lose the early traditions attached to them, and would at least retain the names of the emperors whose tombs these traditions indicated them to be. If any reliance may be placed on this supposition, then the enormous mounds of Nintoku, Richū, and Ōjin may be considered to be the tombs of the emperors whose names they bear, although in the great majority of lesser magnitude the attribution will be doubtful. From this it follows that the building of double mounds reached its zenith about the fourth century of our era.

Besides the dolmens of Class III., which are constructed of rude stones and boulders untouched by the chisel, there are several remarkable examples[a] in which both walls and roof are partially or wholly built of blocks more or less perfectly hewn.

An important dolmen of this structure in an ordinary simple mound occurs on the lower slope of the hills on the west of the Kurayoshi plain, in the province of Hōki.

The chamber and gallery are of the same breadth, 10 feet 3 inches, and they are only separated from each other by two roughly-dressed portal stones, which are both irregular in size and position. The length of the chamber is 12 feet 6 inches, and its height at its highest part 9 feet 7 inches.

[a] Table I. Nos. 20, 21, 37, 38, 39. 114, 117, 119, 127, and 128.

The stones of both the walls and roof are all dressed moderately flat on their exposed surfaces, and the walls especially afford a good example of early squared cyclopean masonry with carefully made joints and without mortar. A point worthy of note in its construction is the evident endeavour of the builder to preserve as far as possible the huge size of the two largest stones in the east wall, these have hence not been hewn square, but their angular portions where they did not meet have been cut into squared recesses into which small blocks were fitted.

This dolmen is also interesting as it is one of the few which contain a cist of rudely-shaped slabs. The cist, too, is the largest I have found, although it is exceeded in size by a hewn-stone sarcophagus in a dolmen in the next province. Its internal dimensions are: length, 7 feet 2 inches; breadth, 3 feet 10 inches; and depth, 4 feet 4 inches. The front slab has been broken, but part of it is still in the chamber.

The dolmen was evidently the tomb of a powerful chief, and a capacious cist was needed to contain the armour, weapons, ornaments, and other appurtenances of the camp and court, which were buried without stint with a warrior's remains.

The roof of the chamber is a single stone, which cannot be less than about 12 feet long, 13 feet broad, and 3 or 4 feet thick.

The next dolmen (Table I. No. 119), also of primitive hewn masonry, is probably of an earlier type than the last, and its structure recalls several examples of Etruscan walling. It is situated at Myōhōji, in Yamato, in one of the most important dolmen districts of the province.

An external view of the front of this dolmen, showing parts of the stones of the gallery cropping out from a much-weathered conical mound is given on Plate XXXIX. fig. 1.

The total length of the dolmen from the entrance to the back wall is 36 feet, and the chamber measures at the floor 16 feet 6 inches in length, 10 feet 6 inches in breadth, and is 9 feet in height. The walls are built in two courses of large blocks of hornblendic granite, squared, and fitted together without mortar. Their surfaces are not dressed flat, but with a slight curvature, and where the corners of adjacent blocks have not met they have been cut away, not as in the last dolmen into square recesses, but obliquely, and a triangular block has been fitted into the gap. The sarcophagus (Table II. No. 23) had been rifled long ago, but on carefully clearing out the earth and stones, which almost filled it, I found a small quantity of vermilion in a slight depression in the bottom. I also found several fragments of ordinary dolmen pottery in the earth of the chamber floor.

A remarkable feature in this dolmen is the roof stone of the chamber. This

is an immense block of granite carefully dressed on its under surface, but in other parts left in its natural state. It is the largest stone I have found in any dolmen, its extreme measurements being, length 20 feet, breadth 12 feet, thickness 7 feet, and its approximate weight 80 tons.

As late as the seventeenth century it was held to be the tomb of the empress

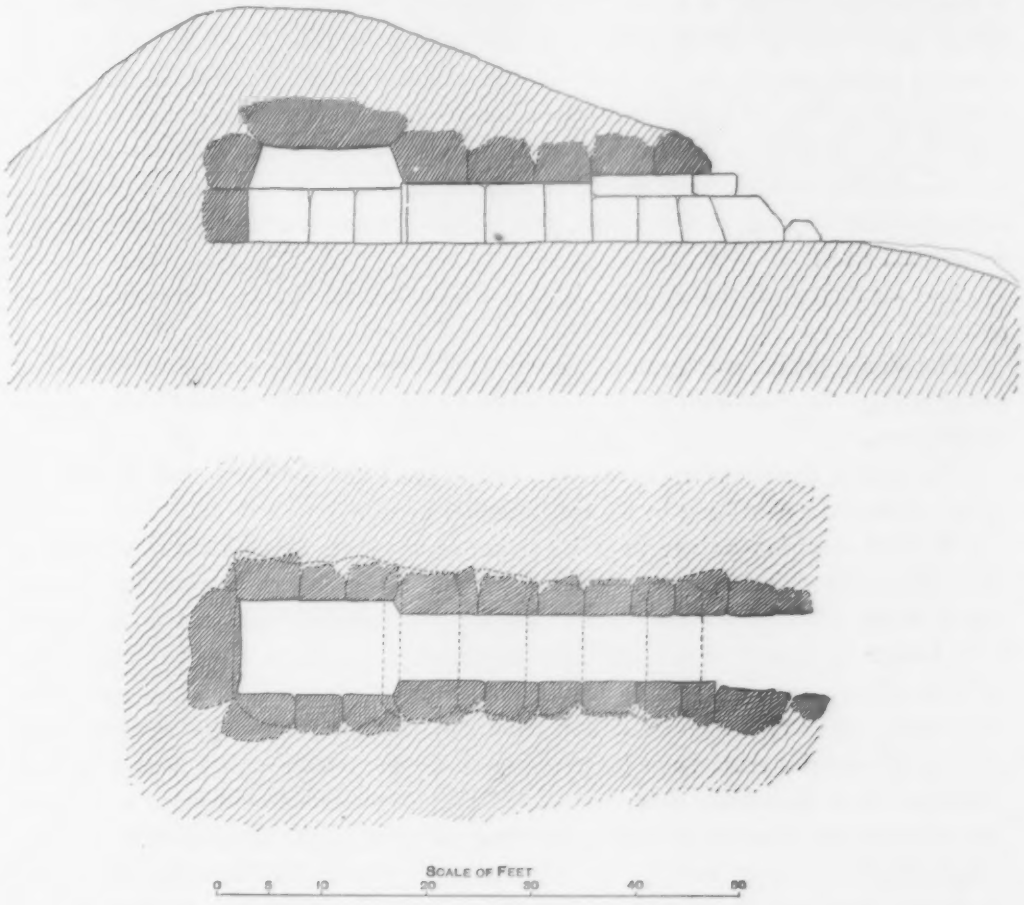


Fig. 13. Dolmen of hewn stones at Koshi (Yamato).

Saimei (died 671 A.D.); but since that time it has not been recognised as an imperial tomb.

A more magnificent example of hewn megalithic masonry, unequalled by any other in Japan for its admirably dressed and perfectly fitted stones, is a dolmen (Table I. No. 127) at Koshi (Yamato) (figs. 13 and 6), about a mile to the south-east of that last described. It is contained in a conical mound with two

terraces now much cut away on one side to accommodate some of the houses of the hamlet and on the other encroached on by fields. Originally the mound was not less than 160 feet in diameter. Its height is 36 feet.

The dolmen is entered from the upper terrace, which is on the same level as its floor. Its total length internally is 44 feet, but the gallery is prolonged 7 feet further without a roof. The chamber is 15 feet long, 8 feet 10 inches broad, and 8 feet 10 inches high, and the gallery 36 feet 7 inches long, 6 feet 5 inches broad, and at the entrance of the chamber 5 feet 6 inches high. At a distance of 17 feet 10 inches from the chamber there is a step of 8 inches in the roof of the gallery, a feature seen also in some rude stone dolmens, against which a barrier of some kind was fixed to prevent access to the chamber but still allow sufficient space in the outer part of the gallery for the performance of ceremonial rites.

The structure of the interior is also illustrated in fig. 6, representing the gallery.

The stones, which are granite, are very skilfully cut and dressed on the sides presented to the interior of the dolmen, but their backs are as usual left in the rough state.

The roof of the chamber is a single huge block similarly cut, and measuring about 14 feet 6 inches long by 11 feet 6 inches broad.

No local tradition or any imperial or heroic name are attached to this dolmen. The villagers say that it once contained a stone sarcophagus, but they had never heard of any pottery or other remains having been found in it. It is now used by a farmer as a store house, and has been swept out from time to time, hence a most minute search failed to reveal anything to give a clue to its age. Its well-hewn masonry removes it far from the early part of the dolmen age, for many centuries must have been required for the evolution of such a perfect structure from the rudely built dolmens of that time, and would seem to place it not far from the close when dolmen building had reached its utmost development.

Another dolmen (Table I. No. 128) of hewn stones, at Abe-mura (Yamato), probably represents the decadent period in the dolmen building age, as in the construction of the walls of the chamber, which are built of small squared blocks in regular courses, it exhibits a complete departure from the traditions of the early dolmen builders. In fact, the only features it possesses in common with the older structures are the megalithic character of its gallery, and the ponderous stone which forms the roof of its chamber.

We now reach the last of the chief classes of dolmens.

CLASS IV.

These dolmens are of a more elaborate form than those of the other classes. They are, however, contemporaneous with many of simpler plan and are, I believe, of earlier date than the hewn stone structures we have just considered. All I have found are, with one exception, constructed of rude undressed stones.

In these dolmens there are two distinct chambers, one behind the other, as well as an entrance gallery.

The outer chamber appears to have been generally used for the performance of the funeral rites, or of subsequent ceremonies in honour of the dead who were placed in the inner chamber, although in the example described below there is a sarcophagus in it also.

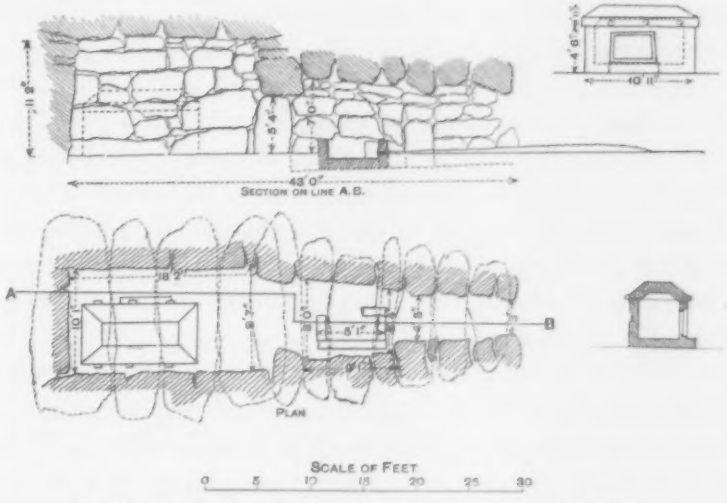


Fig. 14. Dolmen containing two stone Sarcophagi at Imaichi (Izumo).
With Elevation and Transverse Section of largest Sarcophagus.

These double chambered dolmens are of rather rare occurrence, and in all the districts I have explored I have only found six, viz.: one in the central provinces at Hattorigawa (Kawachi), three near Kuroda (Buzen), and two near Imaichi (Izumo).

One (Table I., No. 36) near the Buddhist temple Dainenji in Imaichi (Izumo), is represented in sectional elevation and plan in fig. 14. It is contained in a large double mound 42 feet high, much weathered and cut away, yet traces of two terraces can be distinctly seen. Originally the mound must have been about 300 feet long.

The dolmen lies as usual under the round peak but in an abnormal position, being in a line with the long axis of the mound instead of at right angles to it. The only other example of a dolmen lying in this direction is that at Teraguche, already described. It is constructed rudely of rough unhewn stones.

The total length is 43 feet, and its breadth, which is 10 feet at the inner extremity, diminishes to 3 feet at the entrance. The inner chamber, which is the most capacious, has the following dimensions: length, 19 feet; breadth, 9 feet 9 inches; height, 11 feet 2 inches. Placed longitudinally in it is a huge sarcophagus (fig. 14), hewn out of a single block of hard volcanic tuff, measuring internally at the top 9 feet long by 3 feet 7½ inches broad, at the bottom 9 feet 4 inches long, 4 feet 5 inches broad, and 3 feet 6 inches in depth. Its cover is of the usual roof-shaped form, with projecting lugs, and is 1 foot 11 inches thick.

This sarcophagus is the largest I have found, and is remarkable also for the curious opening hewn in its front side. The opening is 4 feet 4 inches long by 2 feet 4 inches high, and is recessed to receive a slab by which it was closed. Below it the bottom of the sarcophagus projects in the form of a step, upon which the slab rested. This peculiar feature is seen in three other sarcophagi (Table II. Nos. 8, 9, and 10), in dolmens not far distant, and seems to be confined to the province of Izumo, as it has not yet been found elsewhere.[a] As to the purpose it can have served I am unable to offer any explanation. It is too large to be intended for the introduction of offerings of food, or for the egress or ingress of the spirit of the dead.

The outer chamber is much smaller than the inner, being only about 10 feet long, 9 feet high, and tapering in breadth from 8 feet at the inner end to 6 feet 4 inches at the other. It also contains a sarcophagus (Table II. No. 5), but this is constructed of hewn slabs, and its interior only measures 5 feet 1 inch long, 2 feet 5 inches broad, and 1 foot 10 inches deep. This dolmen was opened in A.D. 1825, when a large quantity of metallic remains were taken out of the large sarcophagus, and many vessels of pottery from both chambers. The metallic objects were straight iron swords, iron spear and arrow-heads, cheek pieces of horse bits, and horse ornaments of iron plated with copper. Several of these, which are still kept in the temple, I examined carefully, but found nothing either in their shapes or ornament to distinguish them from the objects found in single-chambered dolmens.

Two dolmens (Table I. Nos. 13 and 14) of magnificent proportions, of the same type and similar structure as the last, are situated near the village of

[a] For apertures in terra-cotta sarcophagi, see fig. 15.

Kuroda (Buzen). One, which is slightly larger than the other, alone will be described.

There is nothing special about its mound, which is a simple conical one, abutting against the end of a low spur. The total length of the interior of the dolmen is 68 feet 6 inches, and for a distance of 45 feet 6 inches from its back wall it is roofed with stones of large size. Rude megalithic blocks form the walls of the chambers, and somewhat smaller stones those of the gallery. The dimensions of the inner chamber are: length, 10 feet 9 inches; breadth, 10 feet 8 inches; and height, 12 feet. A granite sarcophagus (Table II. No. 2) hewn out of a single block is placed transversely near the back wall. The outer chamber is much smaller than the other, only measuring 7 feet 4 inches long, 7 feet broad, and 11 feet 7 inches high. According to local tradition, it is the tomb of Haya-hime, a princess of the time of the Emperor Keikō (71 to 130 A.D.), the ruins of whose palace are said to occur on the high ground bordering the neighbouring valley. The valley bears the significant name *Gosho-ga-tani*, *i.e.* the "valley of the palace." The dolmen unfortunately afforded no evidence of its age, as it had been completely rifled, and nothing is known of the objects it contained. All I found in it was a small fragment of a sepulchral vessel of ordinary dolmen pottery. That the district was an important one during the dolmen age is attested by the numerous dolmens, more than a hundred, which are scattered over it.

One of the groups contains the smallest double-chambered dolmen I have met with, its total length being only 16 feet.

Besides these four great classes of dolmens there are several examples of other forms, but most of these may be regarded as mere modifications of them.

A few, however, are of a special character.

One of the most interesting, a modification of Class III., is a dolmen at Rokuya, near Kameyama (Tamba) (Table I. No. 105). The chief peculiarity in its construction is the massive rude stone shelf which projects from the back wall and extends across the whole breadth of the chamber. It is particularly characteristic of the group which occurs near this village, and is rare, although not altogether unknown elsewhere.[a]

The shelf of this dolmen projects 5 feet 3 inches from the back of the chamber, is 1 foot 1 inch thick, and 2 feet 8 inches above the floor. It is built into both

[a] I only know of three dolmens with a similar shelf in other provinces, viz.:
At Yamanouchi, province of Chikugo.
At Asada, province of Chikugo.
At Handa, province of Awa (Island of Shikoku).

the sides and back walls. In a similar dolmen of this group a long narrow slab of rough stone about 10 inches high is set up across the floor below the edge of the shelf, forming a cist-like space under it. This space was covered with a layer of selected pebbles of black slate, which had been brought from the bed of a river about a mile distant. Upon this layer were lying remains of human bones, beads, and other personal ornaments. This rude arrangement was hence evidently intended to serve the purposes of a burial-cist. In point of antiquity, it might seem at first sight to belong to a very early time in the dolmen age, preceding the use of hewn stone sarcophagi, but the splendid and highly wrought metal objects found on the shelf and in the chamber indicate a much later period.

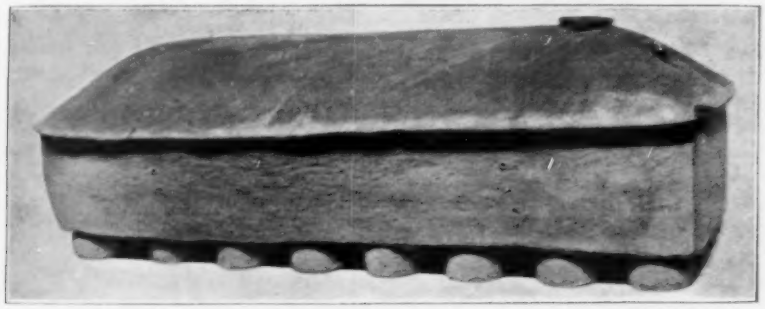


Fig. 15. Terra-cotta Sarcophagus from a Dolmen at Sakuraidani (Settsu).

Another is a dolmen (Table I. No. 68) of unique form which I discovered at Dōmyōji-yama (Kawachi), an external view of which is given in Plate XXXIX. fig. 2. The greater part of its mound has disappeared, and probably also part of its chamber, as the steep slope of granitic detritus on which it is situated has suffered much from weathering.

It consists of a megalithic chamber about 12 feet long by 5 feet 3 inches broad, with a cist, extending behind its back wall, still nearly covered by the remains of the mound. This cist is built of large blocks of stone so hewn and fitted together that they form a long well-shaped nearly rectangular cavity. Its dimensions are those of an ordinary sarcophagus, viz. length 6 feet 2 inches, breadth 2 feet 3 inches, depth 2 feet 9 inches. It is open only at the end next the chamber, and here there are remains of a shallow recess into which the stone closing it was fitted.

On the same hills are several cists (Table I., Nos. 66 and 67) without dolmens, but they are all of a common type, long, narrow chambers built of small stones, roofed with small rough slabs, and generally only covered with about a foot of

earth. They have all been plundered, and I have never found anything in them excepting fragments of dolmen pottery.

Besides sarcophagi of stone, others of terra-cotta, as I have stated above, also occur in dolmens.

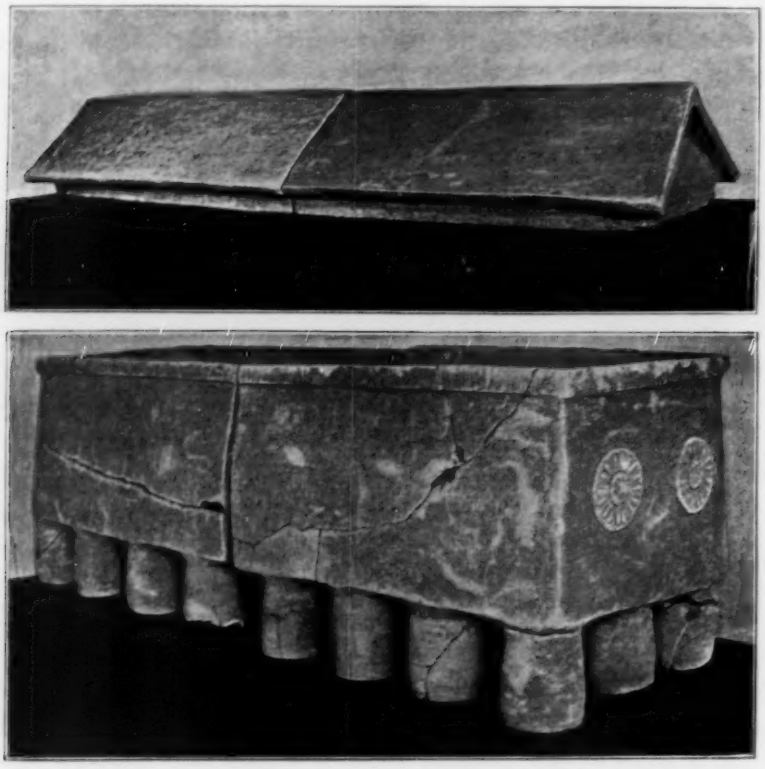
In fig. 15 is represented one which I was fortunate in obtaining shortly after it had been taken out of a dolmen at Sakuraidani (Settsu);[a] it is now in the British Museum. It is of unusually small size, its internal measurements being: length 4 feet 9 inches, breadth 1 foot 4 inches, depth $7\frac{1}{2}$ inches. Its sides are about 1 inch in thickness. It stands on eighteen hollow cylindrical feet, and each of its long sides is pierced with six small holes. The cover is rudely roof-shaped and at each end there is a circular hole $3\frac{3}{4}$ inches diameter, into which the flat stopper shown in the figure was fixed (fig. 15).

When this sarcophagus was opened, it is said, that it contained nothing but earth and there was nothing else in the dolmen, but neither it nor the chamber was carefully examined, as the chief object in destroying the dolmen was to obtain stones for the foundation of the neighbouring temple. Internally it bears the markings known as *Chōsen-guruma* or "Korean wheel," which will be described later.

The finest terra-cotta sarcophagus which has yet been discovered is that shown in figs. 16 and 17. It was found near the village of Isokami in Bizen, and is now in the Imperial Museum, Tōkyō, and the only records there, are that it was taken out of a burial-mound, so that whether the mound contained a dolmen and this sarcophagus was in its chamber is not definitely known, but from its construction, having eighteen feet like that last described, it was evidently, I think, intended to be placed on a flat surface such as the floor of a dolmen, and not to be simply buried in a mound of earth. It is constructed in two pieces and measures internally: length 5 feet $1\frac{1}{2}$ inch, breadth 1 foot 7 inches to 1 foot $9\frac{1}{2}$ inches, depth 1 foot 2 inches; its sides being $1\frac{1}{2}$ to 2 inches thick. The two medallions on one end of the coffin are of special interest. They are 5 inches in diameter, and are the earliest examples of the use of a crest or badge which have survived. The device resembles a flower with eight double petals, forming sixteen rays closely analogous to, but still differing from, the chrysanthemum badge of the Imperial family.

[a] On the sites of several ruined dolmens of the same group, I found remains of three similar sarcophagi and in the chamber of a dolmen about two miles distant fragments of another. I also discovered the feet and parts of the covers of two in rock-hewn tombs near Koknbu (Kawachi).

Burial in stone sarcophagi, in both simple and double non-dolmen mounds, was occasionally practised, as I have already stated. The most notable example[a] I have found is a mound near Dōmyōji (Kawachi), on the summit of which a stone sarcophagus of the ordinary type is nearly completely exposed, and fragments of another are lying alongside it. Its dimensions are given in Table II. No. 17.



Figs. 16 and 17. Terra-cotta Sarcophagus and Cover from Isokami (Bizen).

This sarcophagus is said to have been always in this exposed position with its broken cover, yet on carefully clearing it out I found a small glass bead and a little vermilion, which showed it to be contemporaneous with the dolmen period.

The mound is 132 feet in diameter and 23 feet high.

This mode of burial continued to be practised for some time after the dolmen period, and certainly up to 705 A.D. as in a sarcophagus which was found in a large mound at Tennōji, near Ōzaka, a vessel of gilt bronze bearing that date was found.

[a] For others see Table II. Nos. 18 and 19.



MAP OF JAPAN

showing the

DISTRIBUTION OF DOLMENS

BURIAL MOUNDS AND ROCK-HEWN TOMBS.

Scale of Miles.

Standford Geogr. Estabt. London.


129°
130°
131°
132°
133°
134°
135°
37°
36°
35°
34°
33°
32°
31°
KOREA
JAPAN SEA
PACIFIC
OKI Is
TSUSHIMA Is
IKI I.
GOTÔ ISLANDS
KYUSHU ISLAND
SHIKOKU ISLAND
HÔKI
INABA
TAJIMA
IDZUMO
MIMASAKA
HARIMA
BIZEN
BITCHÛ
BINGO
AKI
NAGATO
IWAMI
SUWO
SANUKI
AWA
TOSA
CHIKUZEN
CHIKUGO
HIZEN
BUNGO
HIÔGO
HYÛGA
SATSUMA
OSUMI
Matsue
Yonago
Tottori
Toyooka
Hamada
Hagi
Yamaguchi
Hiroshima
Fukuyama
Himeji
Okayama
Marugame
Takamatsu
Tokushima
Imabara
Matsuyama
Kochi
Fukuoka
Hakata
Karatsu
Saga
Nagasaki
Kumamoto
Oita
Miyazaki
Kagoshima



MAP OF JAPAN

showing the

DISTRIBUTION OF DOLMENS

BURIAL MOUNDS AND ROCK-HEWN TOMBS.

Group of Dolmens.
Rock-hewn Tombs.
Double Mounds.
Simple Mounds.

Scale of Miles.

0 50 100

Standford Geogr. Estabt. London.



Part II. – Their Contents and Age

In most European countries rude megalithic dolmens are associated with a rude stage in the civilisation of the races by whom they were built. The remains found in them are few, and where they occur they are mostly of stone or bronze, and rarely of iron. But in Japan all the dolmens, even the rudest, belong to the iron age. Stone and bronze weapons, with the exception of bronze arrow-heads, are entirely absent from their chambers, and the use of these materials only survives in objects for personal ornament, and for the purposes of decoration.

The Japanese, indeed, during their dolmen age had reached, as we shall see from the extensive remains they have left us of their work, a very high stage of civilization; they were expert metallurgists and workers in metals, skilful as potters, and had even then developed those artistic traits for which in later times they have become so distinguished.

When a warrior was laid in these rude stone chambers of the dead, his wants in a future world, where he was supposed to continue his existence, were supplied in unstinted measure. He was clothed in his robes, adorned with his personal ornaments, his implements of war and of the chase, and the bits and trappings of his horse were all placed near him. Around and at the entrance of the dolmen chamber were arranged offerings of food, water, wine, and flowers, in vessels of pottery, some of which are of elaborate forms. The remains found in dolmens which I have unearthed myself, and those which I have examined in the Imperial Museum, Tōkyō, and in the hands of collectors in the dolmen districts I have visited, are so numerous, that it will only be possible for me, within the limits of this paper, to deal with one or two of the chief finds, and such of the representative specimens in others as will be necessary for a clear comprehension of dolmen burials.

First in importance are the human remains.

During the dolmen period the bodies of the dead were not cremated,[a] and there

[a] Cremation in Japan only dates from the establishment of Buddhism in the country (sixth and seventh centuries, A.D.), and the first of the imperial line whose body was burned before burial is said to have been the Empress Jitō (d. 702), but this is rather doubtful. However, in 840 A.D., the body of the Emperor Junna was undoubtedly cremated, and it is worthy of note in connection with the rites as then followed, that the cremation did not take place near the tomb but about three miles distant, and that two mounds, both of which I visited, were erected to his memory, one to mark the site of the cremation and the other the spot where the ashes were buried.

are the strongest grounds for believing that in the still more remote times of the earliest simple burial mounds inhumation alone was practised.

Unfortunately no well or even moderately preserved skeleton has yet been found in any dolmen. The damp atmosphere of the chamber and the free infiltration of water through the spaces between the stones in both walls and roof appear to have been most destructive to bone, removing nearly the whole of its organic matter and resolving it into bone earth. So much so, that when human bones are found they are always in such a state of decay that they can be rubbed to powder between the fingers, and occur in such small fragments that so far it has not been possible to obtain any useful measurements.

Even the bony parts of the teeth I have found to be entirely destroyed, the enamel of the crowns alone being preserved as thin hollow shells.

Generally the dead appear to have been laid on the floor of the chamber, but, as we have already seen, burial in sarcophagi of wood, stone, or terra-cotta placed in the dolmen was also practised.

When the sarcophagus was of stone it might be supposed from its closely fitting cover that the bones would not have perished. Most, however, have been rifled in bygone times, and in the few which have been opened during recent years no bones are said to have been found, so that in these also the bones had decayed and were in the form of earth or very small fragments.

As a rule only one burial,[a] or at most two took place in each dolmen. The exact position in which the body was placed has only been determined in a few cases, and in these the head lay towards the south and the feet to the north.

In a dolmen at Shiba (Kawachi), which I explored, the remains of a wooden sarcophagus were lying on the floor of the chamber in a north and south line. One or two fragments of skull were at the south end, and the greatest number of cylindrical jasper beads and two curved beads, usually worn together as a necklace, were also found in the same position. The contents of this dolmen had, however, been partially disturbed, yet, notwithstanding this, I think it is almost certain that the body was laid with its head to the south.[b]

[a] In an *allée couverte* in Shimotsuke explored by Professor Tsuboi, a most indefatigable archæologist, the remains of fourteen bodies were found, probably a chief with the members of his family or retainers, the skulls and other bones being in a fragmentary condition and all intermingled. This case may be regarded as an exceptional one, as the testimony of the metallic remains found in dolmens, where the bones have been destroyed, is all in favour of the view, that not more than one or two persons were buried in each.

[b] In two rock hewn tombs in Buzen, very early in the dolmen period, the skull lay towards the entrance (south) and the feet towards the back.

In a dolmen explored by Professor Tsuboi, at Ashikaga (Shimotsuke), containing a single burial, the teeth and pieces of the skull were at the south-west side, and the bones of the feet at the north-east of the chamber, the body in this case being laid transversely near the back wall. On the other hand, in a stone sarcophagus which I opened in a mound of post-dolmen times in Kawachi, the skull was at the north end.

The position of sarcophagi in dolmens does not aid us in determining whether the body was buried with its head to the south or north, and, as I have already stated, there are no satisfactory records of bones having been found in them. Out of twenty-three which I examined sixteen lay in a north and south direction, so that we may conclude that generally the dead were placed in a north and south line.

The remains found in the early simple mounds are weapons of bronze, sometimes associated with personal ornaments of stone.

No very precise records have been kept of the conditions under which they were found, or whether any pottery was associated with them, as they have generally been unearthed during agricultural operations. The swords occur only in those portions of the islands in which the Japanese first settled, thus they are most numerous in northern Kyūshū, a few have been found in some of the provinces on the shores of the Inland Sea, but none further east. They have never been found in dolmens. (See map, Plate XL.)



Fig. 18. Bronze Sword.

In fig. 18 is represented one of these bronze weapons. In this form of sword, or probably halberd,[a] the blade, which is 1 foot 2 inches long, is two-edged, is strengthened by a central ridge and two converging ribs, and cast with a short tang for the attachment of a hilt or handle.



Fig. 19. Bronze two-handed Sword.

A more common form is illustrated in fig. 19.[b] In this both blade and hilt are cast in one piece. Its total length is 2 feet 9 inches and its breadth $4\frac{1}{2}$ inches.

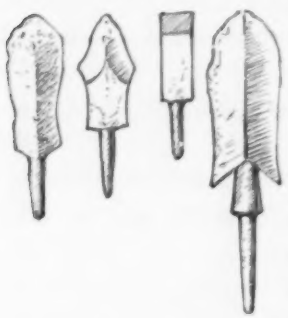
[a] *See* Evans's *Ancient Bronze Implements*, 262 *et seq.*

[b] From a paper by Mr. T. Kanda (formerly Governor of the Hyōgo Prefecture) on "Ancient Bronze Swords," *Bulletin of the Tōkyō Anthropological Society*, April, 1886, p. 30.

The casting, however, is in the rough state, and possibly, when finished, the blade might be slightly diminished in breadth. Yet it would still be a rather unwieldly weapon, although from its length of its hilt, $10\frac{1}{2}$ inches, it was intended to be used as a two-handed sword.

About forty-five of these bronze weapons, with two or three of less common forms, and four stone moulds which were used in casting them, have been unearthed.

The bronze arrowheads are of the shapes illustrated in fig. 20, and their use survived during part of the Iron Age. Specimen *a*[a] was obtained from an early mound in Yamato, *b*[b] from one of later date in Kawachi, and *c* from a double mound in the same province. The locality of the still later form *d*[c] is unknown.



a *b* *c* *d*

Fig. 20. Bronze Arrow-heads. ½ linear.

No bronze celts have yet been found in Japan.

Before proceeding to consider seriatim the various objects, which, according to the beliefs of the early Japanese, were held to be necessary for the wants of the dead in the spirit world and were buried with them, I will first give an account of the contents of a dolmen which I explored in the village of Shiba (Kawachi).

The dolmen has already been described. On entering the chamber through a gap below one of the roof-stones, the sides and roof were seen to be thinly coated with a red powder, as if they had been dusted with it, and the stones of the floor were afterwards found to be similarly covered.[d] The floor was entirely covered with fine earth, which had penetrated through the crevices in the roof and walls and had accumulated to the depth of from 6 to 10 inches. There were several footprints on the surface, as some government officials had visited the dolmen shortly before me. They took away one or two fragments of pottery which were exposed. The farmer, too, on whose ground it was situated, had also been in it and removed some things, but these I afterwards obtained from him. The chief contents, however, being protected by the layer of earth, escaped discovery.

[a] British Museum. [b] British Museum.

[c] From a paper "On Ancient Bronze Arrowheads," by Kanda. *Op. cit.* ii. 124.

[d] An analysis of the powder showed that it consisted of ferric oxide and contained no vermilion, although that substance was found in small quantities adhering to some of the beads and inside one of the covered pots.

In the exploration of this dolmen I made the following arrangements for the determination of the position of any objects which might be found. The floor was divided into twenty divisions by means of a frame consisting of three longitudinal and four transverse laths of bamboo firmly bound together and laid on the surface of the earth. Each division was numbered and had two baskets, a large and a small one, assigned to it for the reception of the objects it might contain.

Beginning with division No. 1, the earth was carefully scraped away in layers and sifted, first through a coarse and then through a fine sieve, in order that nothing, however small, should escape detection; this was continued until the slabs covering the floor had been reached. The other divisions were treated in the same manner. I had hoped by these precautions to be able to determine the original position of every object, but I soon found, from the irregular distribution of some of the beads and fragments of a human skull, that in several places the remains had been displaced. The displacement seemed to be of ancient date, was fortunately only partial, and had not been accompanied by plunder.

A large quantity of decayed wood, in powder and fragments, spread over an area of about 7 feet 6 inches by 4 feet, showed that the body had been buried in a sarcophagus of pine boards placed longitudinally on the floor of the chamber about 1 foot from the east and 3 feet from the north wall. The boards had had a thickness of about $2\frac{1}{2}$ inches, and had been fastened together with nails having lozenge-shaped heads and other iron fittings.

The collapse of the sarcophagus, when its sides had decayed, may have been the cause of the irregular distribution of some of the objects, such as the horse furniture, arrow-heads, &c. which may have been placed on the top of the cover.

Personal ornaments of metal, many beads of glass and jasper, and arrow-heads were found within the space covered by the decayed wood. These, with the possible exception of the arrow-heads, had been put into the sarcophagus with the body. They were nearly all in the southern half, and the arrow-heads in the northern half of the *débris*, indicating that the body had lain with its head to the south.

A curious feature of the remains which I found in this dolmen is the extraordinary number of beads, 1,108 in all. Of these 791 are of glass, all dark blue, with the exception of a few only, which are green or amber coloured, 17 of silver, 123 of baked clay, 133 of steatite, and 41 of jasper.

There were besides three "curved beads," *magatama*, consisting respectively of chalcedony, rock crystal, and steatite. The glass beads are rudely globular, with ground flat ends, and are perforated with drilled holes. They vary from $\frac{3}{16}$ inch

to $\frac{5}{16}$ inch in diameter. Those of baked clay are of similar form and size. The silver beads are mere hollow spheres of extreme thinness of the same size. The steatite beads are smaller than the other, and are in the form of short cylinders about $\frac{1}{8}$ inch long and $\frac{3}{16}$ inch in diameter, very rudely fashioned. The jasper beads, which are of the kind commonly called "bugles" (Jap. *kuda-tama* or "tube beads"), are large, well cut and polished cylinders of this hard stone, of a fine green colour, and varying from $\frac{3}{4}$ inch to 1 inch in length, and from $\frac{1}{4}$ inch to $\frac{5}{16}$ inch in diameter. They are pierced from end to end by a carefully drilled hole, sometimes of extreme fineness, and never bear any engraved designs. A variety of these, always made of rock-crystal, resembling in form two truncated hexagonal pyramids placed base to base, with carefully cut and polished faces, is occasionally found, but rarely more than one in each dolmen. Both these steatite and jasper beads are very ancient forms of stone ornaments, and are not seldom found in the early burial-mounds along with arrow-heads of bronze unaccompanied by any objects of iron.

Among the most important of the stone ornaments, never made of metal, and very rarely of glass, are the curved beads called *magatama* (fig. 21).[a] They are of the shape of a comma with a thickened tail, and have a hole pierced through the head, so that they might be strung with cylindrical or other beads to form a necklace. That they were so worn is proved by the representations of such necklaces on the terra-cotta figures previously alluded to. They are ordinarily about $\frac{1}{2}$ inch to $1\frac{1}{2}$ inch in length. A few of much larger size, reaching to 4 inches, have been found, but these must have had some other use. In one find of 52, which I obtained from a mound in Yamato, no other beads were present, so that they must sometimes have been worn alone. They are very widely distributed, having been found in nearly every group of dolmens or mounds in Japan. They also occur in Korea. The stones of which magatama are made are rock crystal, steatite, jasper, agate, and chalcedony, and more rarely chrysoprase and nephrite. The last two minerals are not found in Japan.



Fig. 21. Magatama. ½ linear.

The distribution of these various kinds of beads in the dolmen was peculiar. Only one-sixth of the whole were found in the *débris* of the sarcophagus, and

[a] The origin of this ornament has been and is a subject of hot controversy among Japanese archæologists and the most abstruse theories regarding it have been propounded, but it would seem not altogether improbable that it arose in remote times simply as an imitation of the claws of wild animals, which were then strung together as necklaces, and was gradually substituted for them.

these were chiefly in three lots, two of blue glass (100 and 52) and one of jasper (17). Outside the sarcophagus, near the middle of the back wall of the dolmen, was a lot of 507 of blue glass, and between this point and the east wall the silver beads were somewhat irregularly scattered. Along the base of the west wall, about one foot distant from it, were three other lots; one consisting of the whole of the burnt clay beads, another of the whole of the steatite beads mingled with 25 of green glass and 9 jasper bugles, and the third of 41 ordinary blue glass beads. It is difficult to account for this distribution; it may be that the wife of the warrior was laid on the west side of the chamber, but in that case the beads would most probably have been placed on the body as they were worn and their positions are incompatible with this view. On the other hand, the occurrence of two spindle whorls in this part of the dolmen would be in its favour, as they can hardly have formed part of the equipment of a warrior.

No bones excepting two small portions of skull about 1 inch square in a pulverulent condition and the hollow crowns of 19 teeth were found. One piece of skull was near the south end of the sarcophagus, the other, together with 9 teeth, was in the south-west corner of the dolmen. The remaining teeth were in the south-east corner and near the middle of the west side. There were no traces whatever of charred bones, and the fragments of skull and teeth had not been acted on by fire. The burial was in fact long prior to the introduction of cremation.

The warlike weapons which I found in this dolmen were forty arrowheads, a long sword, a fragment of another, and a dagger, all of iron. Most of the arrowheads were found amongst the wood of the sarcophagus, the arrows having been placed originally either on the cover or alongside the body. They are of a rather formidable character (fig. 27).

The other weapons had been laid on the floor of the chamber where they were found. The long sword lay along the side of the west wall near the entrance, the dagger at the opposite extremity of the same wall, and the fragment of a blade against the back wall.

The long sword is 3 feet 5 inches in length (blade 2 feet 10 inches, tang 7 inches), has a straight back and one cutting edge, and is of the form (fig. 24*a*) which, as we shall see later, is characteristic of the dolmen period in Japan. The tang is pierced with three rivet holes for the attachment of the grip.

The total length of the dagger is 10 inches, but it has lost a small portion of both its point and tang.

In several dolmens, in other provinces, swords and spears have been found in

the same positions as these and not on or near the body, but in some containing stone sarcophagi, as at Enya and Imaichi, all the weapons, with the exception of the spears, were found within the sarcophagi.

A horse bit, and several halberd-shaped metal appendages of horse trappings similar to fig. 30*a*, as well as rings, buckles, and other horse furniture, were found in the space north of the sarcophagus and partly in its *débris*. Originally they had doubtless lain on the cover, and had been projected thither when the sarcophagus broke down. In other instances, as at Imaichi (Izumo), the horse furniture was found on the covers of stone sarcophagi, and in the Tamba group of dolmens, on the rude stone shelf below which the body was laid.

The bit, which is in a very fragmentary condition, is furnished with cheek-pieces of iron somewhat heartshaped, similar to fig. 30*d*, and with their outer surfaces ornamented with small bosses.

The halberd-shaped ornaments, of which portions of three were found, are also of iron, but are plated externally with thin sheets of copper coated with gold.

The personal ornaments, other than beads, consisted of four silver finger or ear rings, two silver armlets $2\frac{3}{4}$ inches in diameter, and two curious slender ornamental rods of gilt copper expanded at one end into flat spatulate heads. Besides these there were numerous fragments of thin gilt copper fillets, unfortunately all so much broken that their original shapes could not be made out. They were mostly decorated with a simple wave-pattern in lines of punched dots. Adhering to their inner surfaces were portions of a woven hempen fabric, which had been converted into oxide of iron and was thus preserved. They doubtless formed ornamental attachments to ceremonial or official robes.

These personal ornaments were chiefly found in the *débris* of the sarcophagus.



Fig. 22. Metal ornament of Horse Trappings. ½ linear.

Ten curious objects (fig. 22), each about $1\frac{3}{4}$ inch long, of thin copper gilt and full of decayed wood, were found along with the horse furniture, and may perhaps have been used for the decoration of some part of the trappings of the horse.

The spindle whorls which I have already mentioned are both of steatite; one is plain, but the other (fig. 23) is decorated on its upper surface in incised lines with the simple archaic pattern of a very early age, a series of triangles filled with crossed lines, and on its base with the device shown in the figure.

According to the beliefs of dolmen times the needs of the dead in the other world were of as materialistic a character as in that they had left. Vessels

containing food, water, and wine were hence placed with them in the tomb, and from time to time in after years, were also offered with religious ceremonies on the outside of the burial-mound. I was unable to examine the exterior of the mound of this dolmen on the south side, on which the vessels of the later offerings were usually placed, as it was covered with forest and dense brushwood.



Upper surface.



Base.

Fig. 23. Spindle Whorl. Diam. 1⅛ inch.

The dolmen chamber yielded sixteen vessels of pottery, several imperfect, but I was able to repair most of them with more or less completeness.

The most important vessel by reason of its size and form is a large tazza (fig. 38*f*). It is 1 foot $8\frac{3}{4}$ inches high, and is the largest which has yet been found; the only other which approaches it in height being one in the Imperial Museum, Tōkyō (1 foot $7\frac{3}{4}$ inches high), which was taken from a dolmen in the province of Mino.

The pedestal is pierced with four horizontal rows of triangular, and one row of long rectangular, apertures, and is ornamented besides with a rudely incised pattern of acutely waved lines between the perforations. The bowl is $15\frac{1}{2}$ inches in diameter, and bears internally the markings known as *Chōsen guruma*, "Korean wheels," which will be described later, and externally two belts of waved lines, one of which has been made with a comb of twelve teeth. This tazza had been placed on the west side of the sarcophagus near its northern end. Close by it, but nearer the back wall, was another of smaller size. Near these large tazzas were three others only 4 inches high; two of which are similar to but smaller than that shown in fig. 38*a*, and have their pedestals pierced with three perpendicular slits, the pedestal of the other being unpierced.

Fragments of eight shallow-covered bowls (fig. 38*b*) varying in size from $4\frac{5}{8}$ inches to $6\frac{1}{4}$ inches in diameter and $3\frac{1}{2}$ inches high were also found, one near each corner at the back of the chamber and the others on the west side of the sarcophagus in the space between it and the wall. This is the most common form of sepulchral vessel and is found in every dolmen group. Bones of fish and of birds are said to be sometimes found in them, but all the above were empty excepting one, which contained a little vermilion.

The large wide-mouthed water vessels which occur in most dolmens are only represented here by two potsherds of insignificant size.

Among the *débris* of the sarcophagus, at its north end, was an unsymmetrical flattened globular vessel resembling fig. 38*l*, with a short neck placed excentri-

cally in its upper side. It is of uncommon occurrence, and was evidently intended to hold water or wine.

The next vessel (fig. 38*k*) was probably used for libations of wine. It is 5½ inches high, and is in the form of a vase, with a hemispherical base and a wide trumpet-shaped mouth. In one side of its body is pierced a circular aperture sloping downwards. In a few rare examples this aperture is prolonged in the form of a spout; but in all other cases it appears to have had a tube of bamboo inserted in it, through which the wine could be poured.

All this pottery consists of a rather hard-burnt grey earthenware, and has been shaped on the potter's wheel.[a]

The dolmens of other groups have also yielded valuable collections of remains of an extensive and varied character. The most typical objects of these, especially those which illustrate most forcibly the stage to which civilisation had attained during the dolmen period, or which throw some light on the date of its beginning and of its close, will now be considered. Unfortunately, none of the dolmens or mounds which were opened before about 1878 A.D. were explored by competent persons, so that, even in the case of some of the most important finds, neither the positions of the objects, nor even whether they were taken from a simple burial-mound or from a dolmen chamber, have been recorded.

The metal objects, from their special importance, first demand our attention.

Swords.—Amongst the most important objects in the remains which the dolmens have yielded iron swords occupy a foremost position.

It might be expected that the transition from the bronze to the iron weapon would be gradual and that both would for some time at least be in contemporaneous use, yet there is not a single instance in which both have been found together. It should also be noted that the shape of the iron sword is entirely distinct from that of bronze, and that no intermediate forms are known.

This one-edged sword has one special characteristic, *i.e.* it has a perfectly straight back, and is thus distinguished from the swords of later times, all of which have a slight curvature. It is, in fact, essentially the sword of the dolmen period first appearing at or near its beginning, then dying out and being replaced by the curved blade at its close.

These swords are of two kinds, long and short. The former are most numerous, and the length of their blades from guard to point varies generally from 2 feet

[a] The whole of the remains which I obtained from this dolmen are in the British Museum.

6 inches to 3 feet. The latter vary from 1 foot 8 inches to 2 feet. Occasionally short daggers occur, the shapes of which are derived from the iron and not from the bronze sword.



Fig. 24. Iron Swords of the Dolmen Period.

Two typical examples of the long sword are represented in fig. 24.

The sword fig. 24*a* is one of fourteen (eleven long and three short) which were taken from a dolmen in the province of Higo.[a]

The blade is 3 feet $\frac{1}{2}$ inch and the tang $8\frac{1}{2}$ inches long, the total length being 3 feet 9 inches.

A sword,[b] of similar length and shape, I obtained from a dolmen in the Rokuya group (Tamba).

Fig. 24*b* is one of two other swords from the Higo dolmen, both of which are peculiar in having a ring[c] forged at the end of the tang, which had originally been thickly plated with silver. Its length from pommel to point is 2 feet 8 inches.

No guards or scabbards were found with the above swords. The latter may have been of leather or wood, and so have perished. But guards of iron, copper, and bronze have been found with similar swords in several dolmens, yet in almost every case they were fewer in number than the blades. In most dolmens only blades occur; I am hence inclined to believe that it was often the custom to bury unmounted blades, just as in later times they were always so kept when not in use.

[a] The curator of the Imperial Museum, Tōkyō, where these swords are kept, had been unable to ascertain with certainty whether the mound contained a dolmen or not, but from the perfect condition of several objects of delicate workmanship which were found with them, I think they were undoubtedly taken from a dolmen chamber.

[b] In the British Museum.

[c] A sword with precisely the same kind of pommel was found in a dolmen near Ueda, in the far distant province Shinano. Similar ring pommels are seen on ancient Danish swords. Worsaae, *Danish Arts*, p. 151, fig. 187.

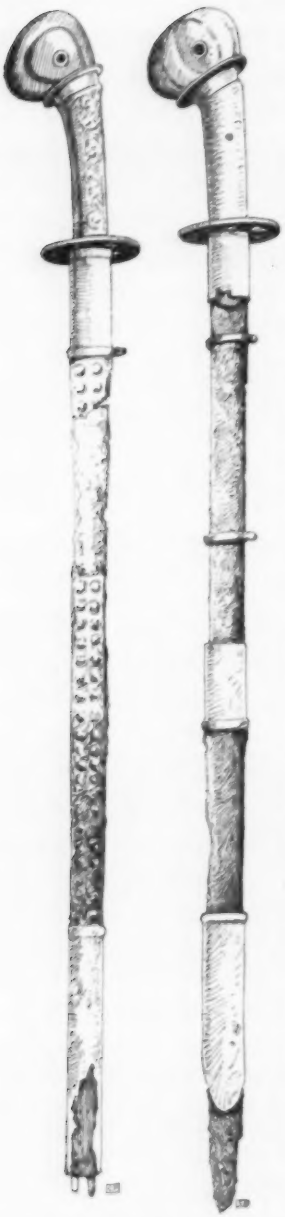


Fig. 25. Swords with ornamental mounts.

Fragments of the metal work of the hilts and scabbards occur among the objects obtained from most groups, but most are so broken up and imperfect that until the discovery in 1880 of two splendid specimens of swords with their furniture almost complete, it was impossible to determine what they had been used for.

These swords are shown in fig. 25. They were taken from a dolmen near the village of Ōmi (Musashi), together with two other swords, remains of an iron helmet and cuirass, a small dirk with silver mounts, many arrowheads, and three gold-plated rings (fig. 33).

The two swords are remarkable for the richness of their ornament. The upper one is 2 feet $6\frac{3}{4}$ inches long from the guard to the point, and the hilt $7\frac{3}{4}$ inches. The grip is of wood, enclosed in copper plates coated with gold and decorated with fine punched scrollwork. The pommel is of a curious form, and consists of the same metal expanded into a large bulb-like head. At the junction of the pommel with the grip there is a thin washer which projects beyond the grip, and adjoining it a narrow collar. The guard is also of copper, coated with gold, and is pierced with ten four-sided trapezoidal apertures. Three broad bands and two rings of silver encircle the wooden scabbard, the latter having loops for the attachment of the cords or chains by which the sword was suspended. The other sword is very similar to this, but the body of its scabbard is covered with plates of gilt-copper, which are beautifully ornamented with bosses in *repoussé* work in high relief.

The guard which has been most frequently found with these straight iron swords is shown in fig. 26. This is the typical form of the sword-guard of the dolmen period in Japan, and is not found in later times. It is sometimes of copper or bronze coated with gold, more often of iron, and is generally perforated with these trapezoidal apertures. In a few

rare cases the perforations are circular. Still more rarely the guards are of plain unpierced iron.

These one-edged straight swords, with their peculiar guards and hilts, differ *in toto* from those of post-dolmen times, and are of great importance in aiding us in the determination of the approximate date beyond which the dolmen period did not extend.



Fig. 26. Sword Guard of gilt copper. Size 3⅜ inches by 2⅛ inches.

Three socketted spear-heads, two of which resemble those of mediæval and later times, were found along with the Higo swords.[a]

Iron Arrowheads.—These are of extensive occurrence. They have been found in dolmens of every group which have not been rifled of their contents in bygone times.

Sometimes, as in those of early date from Hyūga, their forms are derived from the more ancient arrowheads of bronze. But generally they are entirely different, and are of decided "iron" forms.

One of the forms of most frequent occurrence is shown in fig. 27.[b] It consists of a double barbed head forged at the end of a round or square stem. Their length is generally about 6½ inches from the point to the end of the tang, the stem and head projecting about 4⅕ inches beyond the extremity of the shaft. Single barbed one-sided heads, resembling the above double barbed form cut in half lengthwise, are also not uncommon.



Fig. 27. Iron Arrowhead.

Armour.—No bronze armour has yet been found in Japan.

Iron armour, too, is by no means of very common occurrence, either in simple mounds or dolmens. It is just possible that it may not have been universally worn, although fragments have been found in all the chief centres occupied by the dolmen builders.

On the other hand, it is certain that its reported absence from some dolmens

[a] Spear-heads are of uncommon occurrence in dolmen remains, probably because spears were the weapons of the ordinary fighting men, and not of the chiefs who alone were entitled to sepulture in dolmens.

[b] British Museum. From the Shiba dolmen.

is due to its having been so much destroyed by rust that, owing to its thinness, it escaped recognition.

I may say here, that in many dolmens the iron objects are completely converted into shapeless agglomerations of rust, in which the forms of even massive objects can only be made out with great difficulty, and in all these armour would have been unrecognizable.

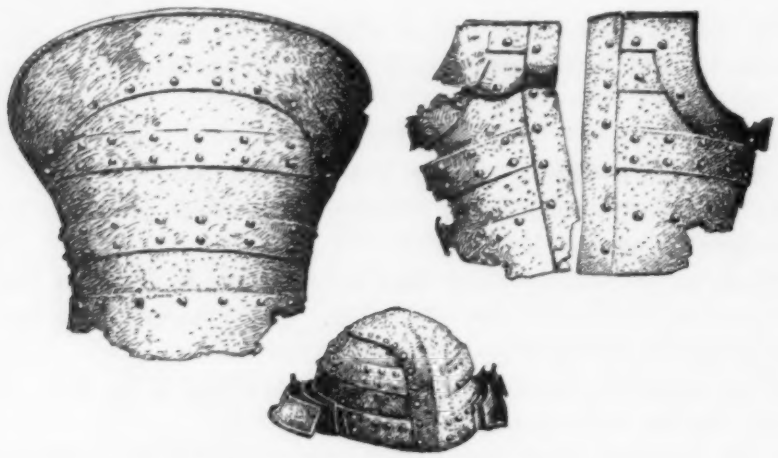


Fig. 28. Iron Cuirass and Helmet. $\frac{1}{8}$ linear.

In fig. 28 are represented some pieces of armour[a] and a helmet of special interest which were found, together with the swords mentioned above, in the Higo dolmen. The cuirass is formed chiefly of horizontal plates of iron very skilfully forged and riveted together with iron rivets. Another cuirass from this dolmen is in a fragmentary condition, the back only being preserved; it is of the same form as the other, but the plates had been fastened together with thongs or cords instead of rivets. Both cuirass and helmet are entirely different in form and construction from those of historical times, but they agree very closely with the armour represented on the terra-cotta figures which, during the early centuries of our era, were set up around the summits of the tumuli of chiefs and rulers, in place of living retainers who before that time had been buried alive in the same position. An illustration of one of these figures is given in fig. 41. The model-

[a] Along with this armour there were found, amongst other objects, fifty-two beads of blue glass, eleven cylindrical beads of green jasper, and a covered dish all identical with those I obtained from the dolmen at Shiba (Kawachi).

ling, it is true, is somewhat rude, yet it is sufficiently distinct to show that the armour is practically of the same form as the above.

No shields or any pieces of metal or other materials which could have formed parts of them have been found in any dolmen.

Horse Furniture.—Of all the metal objects found in dolmens, not even excepting the sword, the bits and other furniture of the warrior's horse are generally the most richly ornamented. Two remarkable examples of horse-bits,[a] with elaborate cheek-pieces, are illustrated in fig. 29. These I obtained from the rude megalithic dolmen, at Rokuya (Tamba). They were found lying on the rude stone shelf which projects from the back wall, and below which the body of the warrior was laid.

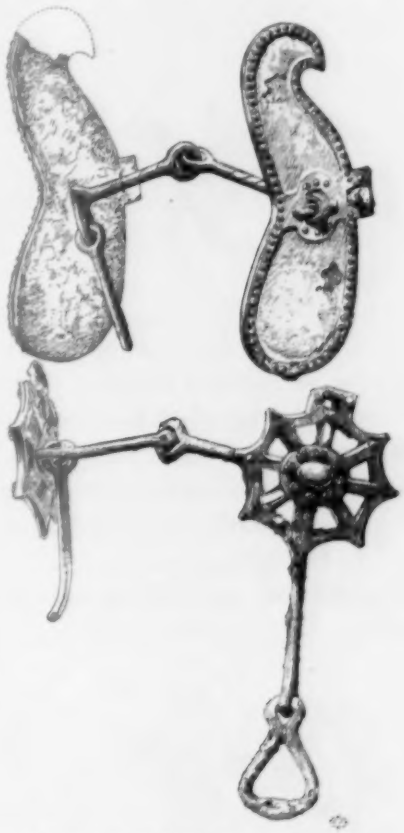


Fig. 29. Horse-bits. Rokuya Dolmen. ¼ linear.

The cheek-pieces of the upper bit are flat plates, with a beautiful curved outline. Each consists of a plate of hammered iron, to the exterior of which, in order to protect it from oxidation and for purposes of display, a thin sheet of copper, coated with gold, is attached by means of studs running round its margin.

The lower bit is of similar construction, but of a more elaborate design. Each cheek-piece is in the form of an eight-pointed star in pierced open work and decorated with ornamental studs.

There are several other forms of these cheek-plates, all being more or less decorated, and some having small circular bells of bronze attached to their rims. One of the plainer kinds, made of iron only, which I found in the Shiba dolmen, has been described.

In fig. 30 are represented several other ornamental objects for the decoration

[a] British Museum.

of the horse. The most important, *a*, *b*, *c*, *d*, and *e*, consist of flat iron plates, which, with the exception of *d*, are all covered with thin sheets of gilt or silvered

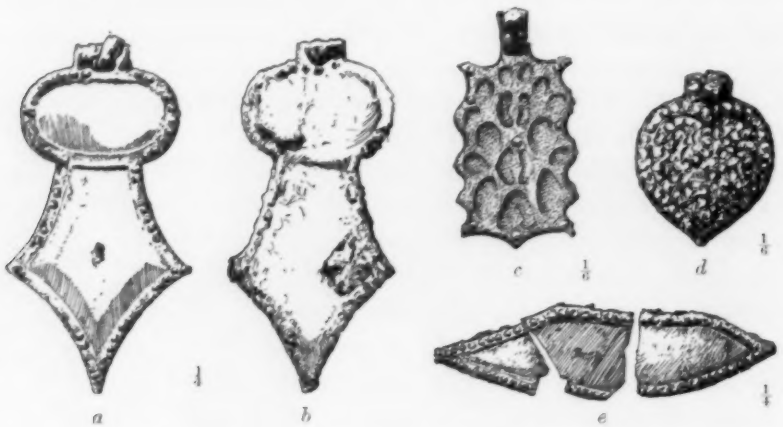


Fig. 30. Ornamental appendages of the Trappings of Horses.

copper in precisely the same manner as the cheek-pieces of the bits just described. These were attached as ornamental appendages to various parts of the harness and trappings. The forms which are of most frequent occurrence, *a*, *b*, and *c*, seem to have been in extensive use during the dolmen period, as they have been found in several groups of dolmens in widely separated districts.

In the figure, *a* represents one of six which were found with the horse-bits (fig. 29) on the shelf of the Rokuya dolmen, *b* one of four from a dolmen at Ryōseki, near Kochi (Tosa), *c* one of two from Shiroishi (Kōtsuke), *d* one from the Shiba dolmen, and *e* one of two from the Rokuya dolmen.



Fig. 31. Other ornaments of Horse Trappings. ½ linear.

The smaller objects, fig. 31, *a*, *b*, and *c*, which I obtained in considerable numbers from the Rokuya dolmen, also occur in most groups, and are identical in structure with the larger ornaments. They appear, from the texture shown by the iron oxide adherent to their lower surfaces, to have been attached, the first to leather straps, and the others to some kind of woven material, probably hemp.

Stirrup-irons are of extremely rare occurrence; only two pairs are known to

me, and they are of the form shown in fig. 32, which represents one from the Higo dolmen.

The manner in which all these objects were used in the equipment of a horse is well illustrated in the terra-cotta figures of horses[a] which, like the images of retainers, were set up on the burial-mounds of chiefs.



Fig. 32. Stirrup-irons. Extreme breadth 7¼ inches.

Articles of Dress.—No articles of clothing of the dolmen period have been preserved. That they consisted of some woven material, probably hemp, is proved by the fragments which I found adhering to many pieces of metal-work from both the Shiba and the Rokuya dolmens. These had survived owing to their petrifaction into ferric oxide.

The shapes of the garments worn can only be imperfectly made out from the terra-cotta figures mentioned (figs. 40, 41). I may, however, state here that, whatever their shapes may have been, they must have been fastened by means of bands, as pins or fibulæ are entirely absent from dolmen remains

Personal Ornaments.—These occur in the contents of all dolmens, and consist chiefly of beads of stone and glass, and rings and strips of metal. The various kinds of beads have been already described.

The chief personal ornaments of metal met with are penannular rings of copper or bronze sheathed with gold or silver, beads and rings of silver, and thin copper strips and bands thickly gilt and ornamented with archaic designs. They are generally simple in character and few in number, even in those dolmens which have yielded highly ornamented swords and a profusion of richly-gilt horse ornaments.



Fig. 33. Penannular Ring. Copper plated with Gold. ½

The copper and bronze rings sheathed with gold or silver, called respectively *kin kwan*, "gold rings," *gin*

[a] An illustration of one of these horses is given in fig. 42.

kwan, "silver rings," are more numerous and wider in distribution than most of the other objects. An illustration of one is given in fig. 33. Those coated with gold are the most common, and as many as thirteen have been found in a single dolmen. Usually, however, there are not more than two or three, and then they are accompanied by others of simple copper or bronze. In internal diameter they vary considerably, the smallest being only about $\frac{1}{2}$ inch and the largest about $\frac{3}{4}$ inch.

They are all massive and heavy and have been made by covering a round bar of the inferior metals with a sheet or tube of gold, then bending it into the form of a circular ring leaving a narrow space between the ends. They resemble closely certain ancient Irish rings, and like them the junction of the gold sheet along its length cannot be seen, whilst at the ends it is simply rudely bent over and hammered.[a]

The smallest of these rings, which are sometimes but very rarely of solid gold, were probably used as earrings and the larger as finger rings, although some Japanese antiquaries hold that they were attached to the dress. The larger rings are never of solid gold and seldom of silver, and, in fact, objects consisting solely of these metals are extremely rare. This was possibly owing to their scarcity and consequent high value[b] which only permitted them to be used for covering the surfaces of more abundant materials.

The silver beads and rings obtained from the Shiba dolmen are typical specimens of their class so that further description is unnecessary.

Thin plates or strips of copper seem to have played an important part in the decoration of the robes of the dead. They are of frequent occurrence in dolmens, and are always found along with the bones, when there are any, or in that part of the chamber where the body had lain. From the Tamba dolmen I obtained numerous fragments and have also found them in dolmens in other provinces, but in all cases, owing to the thinness of the metal, its excessive oxidation and consequent brittleness, they were all in pieces of minute size. Neither their original shapes nor the mode in which they were attached to the garments could be determined. A careful examination of some of the larger fragments showed

[a] In Korea, at the present day, similar thick and heavy rings of solid silver, with their ends merely buttjointed and not soldered, are extensively worn as finger rings.

[b] Copper also appears to have been a valuable metal, although less so than the foregoing, as it is so often used, as we have already seen, merely for covering iron objects many of which would have been better fitted for their uses and more easily constructed if they had been made entirely of it.

that their upper surfaces were ornamented with archaic designs, generally of a simple geometric character, executed in straight and curved lines of closely punched dots. The method of executing their designs in these lines of dots has, as we shall see later, an important bearing on the age of the objects.

In fig. 34 is shown one of these bands from the Higo dolmen, which is in a more perfect state of preservation than any yet found elsewhere. It is a broad band of copper gilt foil ornamented with a hexagonal net-like pattern executed in the manner just described. The decorative effect is increased by small circular pendants of gilt copper foil suspended by wires from angles of the hexagons. The numerous small perforations which it bears show that it had been attached to the dress by sewing with thread.



Fig. 34. Portion of a band of gilt copper worn attached to the dress.
½ linear.

Other bands from the same dolmen are ornamented with different designs otherwise they are of the same character.

Some unique specimens of personal ornaments were found along with these bands, the most important being an elaborately decorated tiara of gilt copper, unfortunately much oxidized and partly in a fragmentary condition. In addition to the punched dot decoration, it is ornamented with scroll designs in pierced work. The others are two pendants and two earrings of gold, the former having small beads of enamel-like glass mounted as gems at their lower ends.

Fig. 35 represents the shoes of the Higo warrior. These are of copper, thickly gilt, and like the band (fig. 34) are ornamented with the hexagonal pattern with pendants suspended from the angles. They are 12⅜ inches long, and have spikes projecting from the bottom for the attachment of soles.

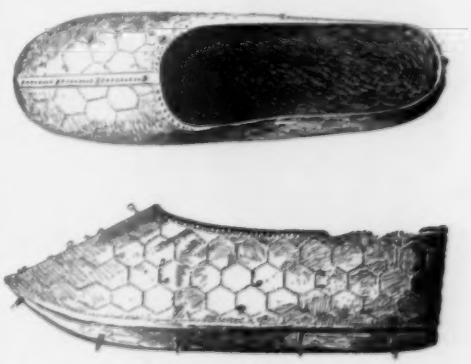


Fig. 35. Shoes of gilt copper.
Length 12⅜ inches.

Six Chinese mirrors were also found in this Higo dolmen.[a] On one there is an

[a] Similar mirrors, some undoubtedly of Japanese workmanship, have also been found in other dolmens.

inscription but it gives no clue to its date. The curator of the Imperial Museum, Tōkyō, however, is of the opinion, from their designs, that they cannot be earlier than the later Han dynasty (25 B.C. to 220 A.D.), nor later than the Tsin (265 to 419 A.D.). This would make the date of this dolmen not later than the fifth century of our era.

The splendid examples of metal work, some of the most typical of which I have just described, which have been found in the rude stone dolmens of Japan should guard us against regarding similar dolmens in other countries as always the work of uncivilized races.

The Pottery of the Dolmen Period.

The total absence of vessels of copper or bronze in the remains found in dolmens is noteworthy. It may perhaps indicate that such vessels were not then in use, or, if so, that they were too costly to be buried with the dead. The latter supposition is, I think, not correct, as some of the clay vessels would have been made in imitation of their forms. But no sepulchral pottery of what may be termed "metallic" shapes has ever been found.[a]

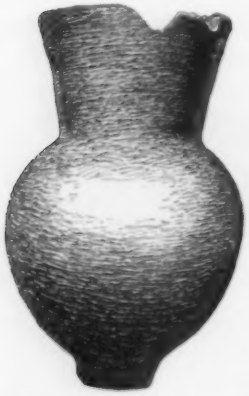


Fig. 36. Terra-cotta Vase (hand-made). Height, 7½ inches.

All dolmen groups have yielded considerable quantities of pottery, and so many of the vessels of every kind have been found entire, that the custom, of which there is said to be evidence in other countries, of breaking the vessels which had been used in the burial rites, does not seem to have been practised in Japan. The vessels are most numerous in the chamber of the dolmen where the funeral offerings were made, but they are also found in the gallery, and in that case are those which were probably used in ceremonies subsequent to the day of burial. They also occur on the summit of the square end of the double mounds, in which place part of the funeral rites seems to have been performed.

[a] The exclusive employment of earthen vessels according to Schrader (*Prehistoric Antiquities of the Aryan Nations*, 367), was long retained in Greece and Italy in matters of ritual and the non-use of metal vessels for sepulchral offerings may be similarly explained. I may add that even at the present day on important occasions the health of the Mikado is drunk in saucers of unglazed earthenware.

Another position in which they are found is the south side of the base of most mounds, where the anniversary ceremonies in honour of departed ancestors were held.

This pottery may be divided into three classes according to the nature of the material of which it is made: I. Lightly burnt Terra-cotta; II. Hard burnt Earthenware; III. Coarse Terra-cotta.

The most ancient vessels which have yet been found are of Class I. They are small wide-mouthed vases of pale reddish brown colour, rudely made by hand (not on the potter's wheel) and are without decoration of any kind.

The specimen shown in fig. 36 was dug up near a simple non-dolmen mound attributed to the Emperor Jimmu[a] at the foot of Mount Unebi (Yamato). It was given to me by the local governor, who was present when it was unearthed. It is $7\frac{1}{2}$ inches high and 5 inches in diameter.



Height, 6 inches. Height, 5¼ inches. Height, 5 inches.

Fig. 37. Terra-cotta Vessels (wheel-made).

The three other vessels in fig. 37 are of the same material, and although of archaic forms, are all wheel-made and of less ancient date than the above. These I found in a rock-tomb adjoining a group of dolmens near the village of Yasui (Izumo). They were associated with ordinary dolmen pottery.

The pottery of Class II., although of the most varied shapes, is very uniform in its general character. It is usually more or less hard burnt, of a grey colour, never glazed or painted, and almost invariably made partially or entirely on the potter's wheel.

To this class all the typical sepulchral vessels of the dolmen period belong.

[a] According to Japanese records, Jimmu was the first of the Imperial line. (Died 585 B.C.?)

It occurs extensively wherever there are dolmens, and is also found in all groups of the later non-dolmen mounds, but is never associated with stone implements, or with any objects earlier than the Iron Age.

The earliest of this pottery is coeval with the beginnings of dolmen building, which for reasons to be afterwards assigned is not probably later than the beginning of our era. So that the old and oft-repeated legend attributing the introduction of the potter's wheel from China to the priest Gyōgi, who is also said to have been the first maker of this pottery, in the latter half of the seventh century or the first half of the eighth, has not the slightest foundation in fact.

The decoration of this pottery is of a very simple character, and is restricted to the exterior of the vessels. The potter was yet unacquainted with the use of pigments for colouring or painting his wares, and his efforts in ornament were generally confined to arrangements of straight or curved lines scratched in the clay when soft, with a single pointed tool, or with combs with a varying number of teeth. Designs in bas-relief are never found. Not unfrequently, however, figures of birds, animals, and men are rudely modelled on the shoulders of vases, but no incised representations of these, or of designs derived from them, or from plant forms, appear on any vessel. As we have already seen, vessels with pedestals often have these pierced with triangular, rectangular, or circular perforations, which may have been intended as a form of ornament.

Ruder than any of the above are the marks of matting which more or less cover the external surface of some, especially the larger jars. The interiors too of many of the large vessels are often marked with series of concentric circles confusedly overlapping, which have been stamped into the clay when soft. This however is not intended as ornament, but is due solely to the mode in which they have been treated in order to make their sides dense and solid and free from porosity. Thus, whilst the vessel was being gently turned on the wheel, a wooden stamp with concentric circles cut on its head was pressed against the inside, at the same time that the outside was beaten with a flat wooden paddle wrapped in matting. These circular markings are termed by Japanese archæologists *Chōsen-guruma*, "Korean wheels," or *Chōsen-nami*, "Korean waves," because it is supposed by them that they were introduced from Korea. This is an entirely erroneous assumption, as, although I have seen this mode of manufacturing pottery in operation in Korea, yet the pottery of the old burial-mounds of that country never bears these markings, and they are only found on vessels of modern or comparatively recent date.

From my exploration of the sites and rubbish-heaps of three ancient potteries

which I discovered in the province of Settsu, and which from their extent could hardly have been exclusively employed in the manufacture of sepulchral pottery, I am led to the conclusion that many of the vessels found in dolmens, such as the bowls and jars, are not different from those in domestic use at the time. Some of the tazzas, vases on pedestals, and a few other forms, were, however, most probably purely ceremonial vessels.

This dolmen pottery of Class II. may be divided into three groups, viz.: 1. Food Vessels; 2. Vessels for Water or Wine; 3. Vessels for Ornamental Use.

In each group the variations in shape and size are so numerous, that I can only select a few of the chief typical forms for description. Illustrations of these are given in fig. 38.

1. Food Vessels.—These consist chiefly of the following:

Shallow bowls or dishes with covers, usually about 6 inches in diameter and 3½ inches to 4 inches in height.

Tazzas with and without covers, 4 inches to 9 inches high, but sometimes of much greater size.

Wide-mouthed globular jars, from 3¼ inches to 1 feet 6 inches high.

A description of the shallow bowls, fig. 38*b*, and of the largest kind of tazza, fig. 38*f*, have been given.

In figs. 38*a* and 38*d* are represented two varieties of the smaller tazzas covered and uncovered, both having vertical slits in the pedestals. The form 38*d*, 7½ inches high, is the most common. They were used for offerings of food, and were placed on the floor of the dolmen chamber on one side of the body, or of the sarcophagus.

The use of tazzas for offerings still survives in ancestral worship at the ancient Shintō temple of Kasuga, at Nara, where they are employed in the daily ceremonial presentations of food in front of the shrine. The tazzas so used there are of the rudest terra-cotta, shaped roughly by hand without the use of the wheel, and, although made at the present day, closely resemble the most primitive pottery of the earliest burial-mounds, in fact they cannot be distinguished from it.

The wide-mouthed jars, of which one is shown in fig. 38*m*, present few features of interest. They are rudely shaped globular vessels, with necks varying in length and form. Their decoration is usually confined to one or two bands of incised undulating lines resembling waves, made with a comb of six or more teeth, around the outside of the neck, the body being more or less covered with marks of matting and the interior with concentric circles. The larger specimens

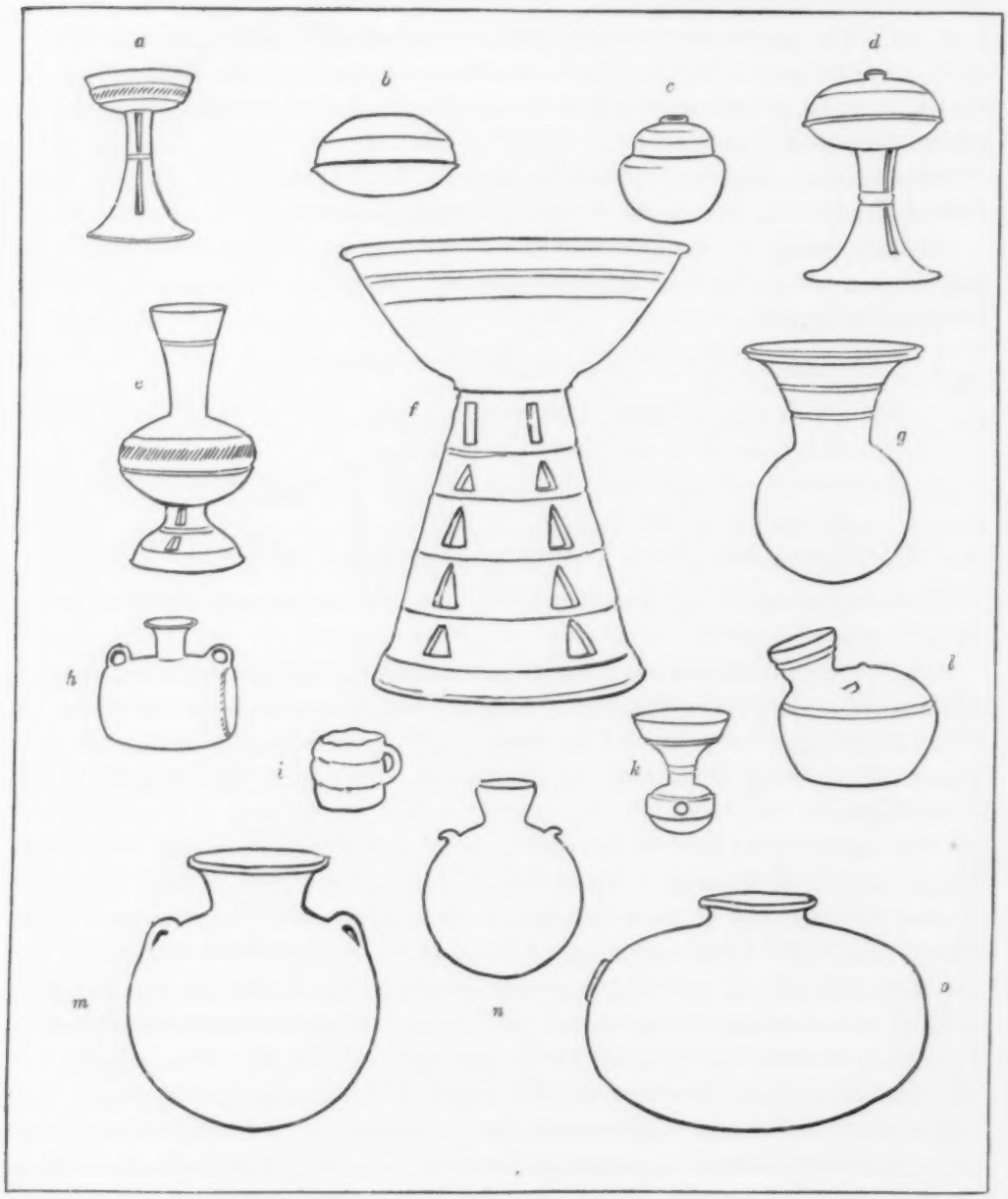


Fig. 38. Chief Types of the Pottery of Class II. from Dolmens. ½ linear.

may have contained grain or water, but the smaller were also used as receptacles for ornaments, especially for the curved beads (*magatama*).

2. Vessels for Offerings of Water or Wine.—Although some of the jars just described may have been used for offerings of water, yet many dolmens have yielded a special and characteristic form of water vessel, fig. 38*o*. This is a kind of earthenware barrel with rounded ends and a wide mouth in its side. Its average size is about 1 foot 4 inches long by 11 inches wide. A vessel of precisely the same form, excepting that sometimes one end is flat, is in use at the present day in Seoul, the capital of Korea, for holding and carrying water. Those I saw were inclosed in a slight frame of wistaria stems, with loops above for handling them when they were being filled and emptied. They were carried on the back, resting in a wooden frame. Like the ancient Japanese vessel, they are covered with marks of matting on the outside and with concentric circles on the inside.

The other vessels, bottles, and vases, etc. which were used for water or wine, exhibit an endless variety of forms. One of the most frequently occurring types of the former (fig. 38*n*) closely resembles the so-called pilgrim bottles of ancient Cypriote pottery, but has mere loops or curved lugs instead of handles. It is of a compressed sphericals hape, one side being flat, the mouth being placed in the circumference. They were, doubtless, used as flasks, being bound with wistaria stems or split bamboo, so that they might be suspended from the neck or shoulders.

Another form is shown in fig. 38*l*. In this, the mouth of the vessel is placed excentrically in the rounded top. The capacity of both these forms varies from half a pint to a quart.

Fig. 38*h* is a small barrel-shaped vessel, also resembling a Cypriote form, which has been found in several dolmen groups, but is rather uncommon. The specimen is about 8 inches long and has two loops for suspension.

Perhaps more interesting than the preceding are the libation vases, one of which is represented in fig. 38*k*. I may say that libations of wine are still made before mountain shrines in many parts of Japan, and they form an essential part of certain pagan rites now practiced in Korea.

Besides the above forms, several vessels made in imitation of leathern bottles, with the stitched seams carefully modelled, have been found in the dolmens of northern Kyūshū, to which district they seem to be peculiar.

The convenience of handles and lipped mouths for vessels containing fluids

does not seem to have been recognised by the dolmen builders. On only one kind of vessel, a sort of mug (fig. 38*i*), and this has been found only in Kyūshū, is there a well-formed handle, in all others such rudimentary forms as knobs, lugs, and loops alone occur.

3. Ornamental Pottery.—This embraces all those vessels specially intended for the decoration of the sepulchral chamber, either by reason of their ornamental forms, or for holding offerings of flowers or more probably of sprigs of foliage. Of these there is also an endless variety, especially of vases, many of which are of elegant outline but of the same primitive decoration that we have seen on the preceding vessels. One of the most common, and of wide distribution, is a vase with a long neck and a pierced pedestal (fig. 38*e*). Another of somewhat rarer occurrence has a globular body without pedestal or foot, and a neck expanded into a wide trumpet-shaped mouth (fig. 38*g*).

More elaborate forms also occur but they are confined to the dolmens of chiefs whose rank or power entitled them to specially sumptuous appurtenances of the tomb. They are of marked importance, as the modelled groups of figures with which they are sometimes ornamented afford us a few glimpses of the manners and customs of the early Japanese.

Plate XLI. figs. 1 and 3, represent two of three covered vases which I obtained from the dolmen in Tamba, along with the magnificent horse bits and metal work which we have already described. They are 1 foot 4 inches in height and have pierced pedestals similar to those of the largest tazzas. Four miniature vases are attached to their shoulders. These vessels were found at the side of the cist-like space containing the body.

Another curious form from a dolmen in Kawachi is the triple vase,[a] consisting of three vases fastened together on a pedestal (Plate XLI. fig. 2). At the points interiors of junction with one another a small circular hole is pierced so that their communicate.

This vessel resembles, both in size and form, one which was dug up by Dr. Schliemann at Troy,[b] excepting that the latter has no pedestal.

The vase,[c] Plate XLI. fig. 6, is from one of the dolmen groups in the province of Bizen. It is 1 foot 1 inch high. On its shoulders there are three small vases and between them, very rudely modelled, are represented a stag and three does, a boar, a dog, and four men rowing in a boat. In fig. 7 the boat is represented half its full size.

[a] British Museum. [b] *Ilios*, p. 384, fig. 356. [c] British Museum.



ORNAMENTAL POTTERY.

¼ linear (excepting fig. 7).

Another vase[a] (Plate XLI. fig. 4) is from the province of Kōtsuke. Its height is 1 foot $8\frac{5}{8}$ inches. There were originally seven figures on its shoulders, three are wanting, the others are a stag, boar, and two birds difficult to identify, all of the same rude modelling as the last.

The vase,[b] Plate XLI. fig. 5, is from the province of Yamato.

Thus far we have seen the ancient potter ornamenting with these modelled figures the same shapes which characterise his less pretentious productions and decorating their surfaces with the same primitive patterns in incised lines.

The next example[c] (fig. 39) shows a marked advance in his art, the body and pedestal are of well-proportioned and even elegant forms, much of the archaic character has been lost, and although the incised line decoration survives, the lines are differently arranged, and the old wave-pattern has gone. This is also from Bizen and from the same department as the last. It is about 2 feet in height and although of coarse grey pottery is a very handsome vessel. On the shoulders we have three small vases, and between two of them are two men engaged in wrestling, and on their right the umpire, whose duty it was to prevent unfair throws. The other groups are imperfect.



Fig. 39. Ornamental Vase. Bizen. Height $23\frac{1}{2}$ inches.

Figures of idols are never seen on any of these vessels of pottery; representations of human life, or of animals or birds of the chase alone occur. It is just possible that the scenes shown on them, as those of wrestling, the deer hunt, etc., are intended to represent the sports and pastimes to which the dead warrior was devoted, or in which he had displayed marked skill. Scenes of victories in battle are never found, and their absence during this period of conquest is quite inexplicable. The absence, too, of Chinese motives, such as the tiger and dragon, which were intimately associated

[a] British Museum. [b] British Museum. [c] Imperial Museum, Tōkyō.

with ancient Chinese sepulchral rites, is curious, and would seem to indicate that China at that period had less influence on Japan than has been supposed.

The coarse terra-cotta objects of Class III. are figures of men, women, horses, etc. and the tubes shown in fig. 11.

Another important feature of some of the ancient burial-mounds and dolmens is the terra-cotta figures which were set up on them at the funeral ceremonies.

Like many other races, the early Japanese practised that curious rite of animistic religion, the funeral sacrifices of men, women, and animals for the services of the dead.[a]

According to Chinese records contained in the *Isho-nihon-den*, translated by Mr. W. G. Aston, these sacrifices were carried on in Japan as late as the latter half of the third century of our era when on the burial of an empress one thousand male and female attendants accompanied her in death. It is just possible, however, if the record is correct, that the case mentioned may have been merely an example of a return to the ancient practice, as terra-cotta figures had been substituted for living retainers long before that time.

According to the *Nihongi* this substitution was made about the beginning of our era, but remains of these figures have been found on mounds which are probably of even an earlier date.

These figures are called by the Japanese *tsuchi-ningyō*, a term merely signifying "clay images." They are made of lightly-burnt coarse terra-cotta, generally red in colour. Owing to the perishable nature of this material when exposed to the action of the weather they would be rapidly destroyed as long as they stood above the ground, and only when by chance they were overturned and became covered with earth was there any possibility of their preservation; hence but few have

[a] In a paper entitled "On the Stone Figures at Chinese Tombs, &c," by Mayers, read before the North China Branch of the Asiatic Society, 12th March, 1878, the following examples of these practices in China are given:

678 B.C. Human beings were first slain at the grave of the deceased sovereign Wu Kung.
621 „ At the death of the Emperor Muh Kung 177 were slain.
210 „ At the death of the Emperor She Hwang-ti, concubines who had borne no children and others were put to death.

No other later instances are given, but it is recorded that at the tomb of Hoh K'ü-ping (117 B.C.) stone figures of men and horses were arrayed.

survived, and most of these are in a fragmentary condition. Yet in nearly every dolmen district there are tales of their having been dug up.[a]

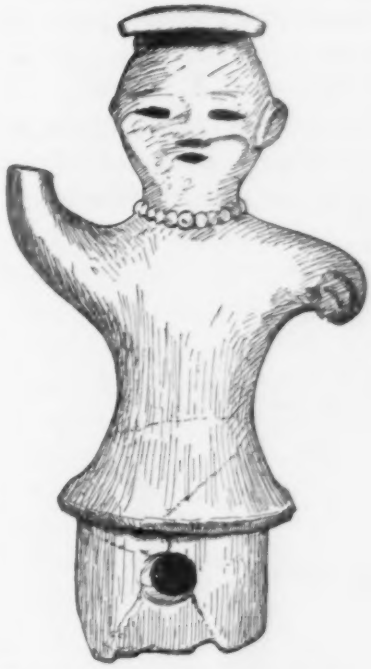


Fig. 40. Terra-cotta Female figure (*Tsuchi-ningyō*). ⅛ linear.



Fig. 41. Terra-cotta Male figure (*Tsuchi-ningyō*). ⅛ linear.

[a] In the province of Yamato after these sacrifices had ceased there was for some time a pretence of immolating victims. They were shut up in the chamber of the mound with the dead, but an opening was left through which they might escape. These persons termed *ombo* were, however, considered to be dead and had to live in districts specially set apart for them.

The custodians of burial-mounds formed another grade of men who were similarly compelled to live apart from the ordinary people. They were termed *shiku*. Both these grades usually carried on farming operations and were not regarded as being so low in the social scale as the *eta*.

Unfortunately no records have been kept of the positions in which the existing specimens were found, but there is not the least doubt, judging from the forms of their pedestals, that they were set up above the surface of the mound and not buried within it. My own opinion, which is based on the positions in which I found a pedestal on one mound, and numerous fragments of terra-cotta, not pieces of ordinary tubular *haniwa*, on others, is, that they were set up in an erect position on the level summits of the circular mounds and of the round peaks of the double mounds.

In figs. 40 and 41 are shown two typical examples of *tsuchi-ningyō*.

Fig. 40 represents one of the most interesting of these archaic figures, from a mound in the province of Kōtsuke, which I was fortunate in being able to secure, and it is now in the British Museum. Its height, measured from the top of the

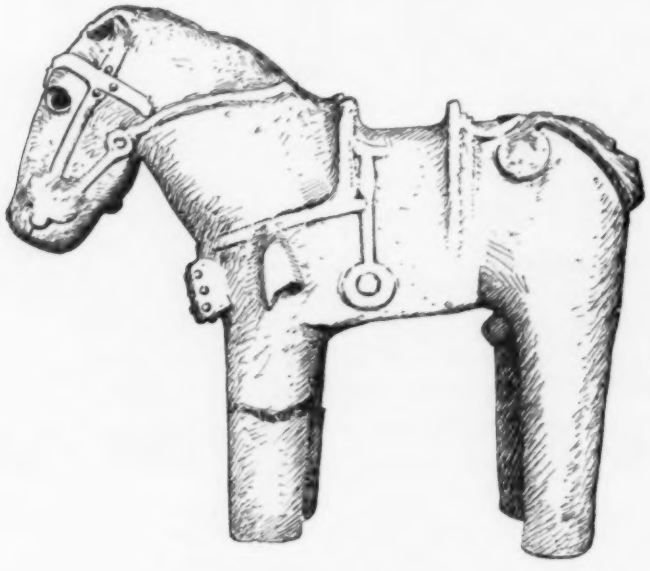


Fig. 42. Terra-cotta Horse. $\frac{1}{10}$ linear.

pedestal, is 1 foot 5 inches. From the mode in which the hair is arranged it is evidently intended to represent a woman. Around the neck is a necklace of round beads. Other fragmentary female figures have this necklace, as well as bracelets of similar beads. The pedestal is in the form of a tube, pierced with two holes,

through which a bar of wood was probably fixed in order to assist in keeping the figure upright.

Fig. 41 is a copy of a Japanese drawing of a *tsuchi-ningyō* representing a warrior, also from a burial-mound in the province of Kōtsuke. The original figure is 1 foot 11 inches in height, measured from the top of the pedestal to the crown of the helmet. The cuirass is evidently formed of plates joined by rivets, and of the same form and construction as that from the Higo dolmen described above. The helmet is also of riveted plates.[a]

Fig. 42 represents one of the terra-cotta figures of horses which, like the human figures, were also set up on burial-mounds. It was found on a mound in the village of Kamichūjo (Musashi), and is now in the Imperial Museum, Tōkyō. Its dimensions are: height to the top of the back 2 feet 1 inch, extreme length 2 feet 11 inches. The cheek-pieces of the bit had originally six small bells, of which only one remains, attached to their rims, like those of the Higo dolmen. The stirrup-irons, too, are evidently of the same form as those from that tomb. The positions of the larger bells, and of the ornamental metal plates, are clearly indicated, although the latter are represented of a somewhat different shape from those usually found.

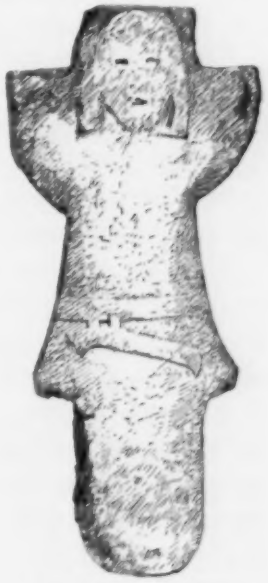


Fig. 43. Stone Figure from a Dolmen mound.

Besides these terra-cotta figures, rudely carved stone figures were also sometimes placed on mounds. The name *hayato*, or "palace guards," is usually applied to them. They are of very rare occurrence and were probably never in extensive use. One of the few which have escaped destruction is shown in fig. 43. It was found on a burial-mound in the province of Chikugo, in Kyūshū. It is a flat slab 3 feet in height, including the pedestal, and 6½ to 7 inches thick, roughly hewn to represent a man wearing a dagger. On the back are perpendicular incised lines, which are supposed by some to represent arrows.

The mound from which it was taken is one of the double form and formerly contained a dolmen, but now all the stones have been removed. On an old

[a] According to the curator of the Imperial Museum, Tōkyō, the date of this kind of armour is about the fourth century of our era.

engraving (1797 A.D.) this figure is shown in position on the mound, not on the summit where the terra-cotta figures were placed, but in front of the dolmen, a little to the left of its entrance.[e]

On one mound near Nara (Yamato), apparently of post-dolmen times, these guardians of the tomb were represented by three rude boulders, one side of each of which was smoothed and had incised on it, in deeply cut lines, a rough drawing of a human figure having the head of a hare. They are now in the temple Tōdaiji.

Age of the Dolmens.

Two important questions remain for our consideration. First, who were the builders of the dolmens? Second, what was the date and duration of the period during which they were built? Both these I shall endeavour to answer, as far as is possible, from the results of my explorations of the dolmens themselves and examinations of their contents, referring in a few instances only to ancient Chinese and Japanese records.

That the builders of the dolmens were not the aboriginal inhabitants of the country is very conclusively proved by the evidence afforded by the "Kitchen Middens," or shell-mounds, which are found at many points on the coast of the main island, and also in Kyūshū. The contents of these mounds consist of bones of men and animals, shells, stone implements, together with vessels of pottery, but without any objects of metal whatever. The same remains become more and more abundant as we proceed to the northern extremity of the country, and still more so when we enter Yeso. The pottery is entirely distinct in its material and in the shapes of the vessels, and the nature of their decoration from that which occurs in the burial-mounds and dolmens, and neither it nor the stone weapons have ever been found in them. Neither have any pieces of dolmen pottery or anything characteristic of dolmens ever been found in shell-mounds. The identity of these remains, whether found in Yeso, or in the extreme west, prove un-

[e] In the *Shaku Nihongi* (written in the thirteenth century) it is stated that there were then many other figures of men and animals on this mound.

doubtedly that they belong to the aborigines, the Ainu, who once occupied the whole country and were gradually driven back to the north by a more powerful race. The contents of the burial-mounds and dolmens afford no evidence of more than one invading race, and there is such a continuity in the forms of the metal work, and especially of the stone ornaments and pottery from the earliest of these remains up to those of historical times, that we must admit that the people of that race were the ancestors of the present Japanese. There were doubtless several immigrations, but only of kindred clans. Whence they originally came is a problem so far unsolved, and the present available *data* are far too scanty to enable me even to theorise with profit on the approximate locality of their original home. But the distribution of the dolmens and burial-mounds on the coasts opposite to Korea affords very weighty evidence in favour of their having come through that country.

The island of Tsushima is so near to the Korean peninsula as to be visible from it in clear weather, and from Tsushima the outlying islets of the island of Kyūshū are also clearly seen. It is hence extremely probable that the chief immigration of the race took place by that route.

Strange to say, their traditions and the mythical legends relating to their origin only tell of Kyūshū as their birthplace, where they first arose as descendants of the gods, and are silent about any migration from the mainland, although that must have been one of the most important events in their early life.

The date of that immigration is shrouded in the mists of a far distant age and does not admit of even an approximate determination. The race seems, however, to have been settled in Kyūshū and parts of the main island for some time before they became dolmen builders, during which they erected only simple mounds for the reception of their dead. From the bronze swords and the moulds used in casting them, which have been chiefly found in Kyūshū, and the shores of the west part of the inland sea, never along with iron objects and never in dolmens, we may, I think, infer that they were then in the latter part of their bronze age and that before they advanced further eastwards they had become acquainted with iron.[a]

The dolmens are certainly all of the iron age, and were apparently first built

[a] There is no evidence of a copper age in Japan, but contemporaneous with the early iron age and up to the sixth or seventh centuries of our era we find copper in more extensive use than bronze as a decorative metal.

by the Japanese very shortly after they had become acquainted with the metal. No bronze swords have ever been found in them; bronze arrowheads are said to occur occasionally, but associated with iron swords, although I have never found any myself.

Whence the early Japanese derived the idea of dolmen building it is very difficult to say, and it is extremely improbable that it originated independently with them.

No dolmens have been found in China, but no systematic archæological explorations have been made in that country and they may perhaps yet be discovered.

In Korea there are dolmens, but they are merely cists with megalithic capstones[a] similar in structure to those of Western India, but having no points of resemblance to those of Japan. In fact, until passing westwards through Asia we reach the shores of the Caspian Sea only then do we find dolmens at all similar to the Japanese, and for still more closely allied forms we have to go still farther to Western Europe. It may be that the Korean dolmen is the germ from which the Japanese dolmens were developed, but if so, it is strange that not a single example of it is found in Japan.

The direct determination of the date when the Japanese first began to build dolmens is beset with great difficulties on account of the insufficiency of trustworthy *data*. Yet by calculating back from the time when dolmen building was given up, the length of the period during which it was carried on may, I think, be computed, and the date of its beginning ascertained with a possible error of not more than one or two centuries.

The approximate date of the termination of dolmen building may be taken as lying between 600 and 700 A.D., although such a time-honoured custom may have lingered on for some years afterwards and probably survived until a very much later period for some imperial interments.

The evidence on which the above approximate date is based is derived chiefly from the metallic contents of the dolmens, more especially from the form of the iron swords, and the technique and ornamental designs of their furniture, and of other objects of metal.

The famous collections of antiquities in the ancient treasure-house, the Shōso-in,

[a] Gowland, "The Dolmens and Antiquities of Korea," *Journal of the Anthropological Institute*, xxiv. Pl. xvi. p. 330.

and in the temple Tōdaiji, at Nara, afford much valuable aid in this determination. The collection in the Shōso-in was made in 784 A.D., when the court was removed from this ancient city to the province of Yamashiro.

Specimens of all the articles in use at the palace at that time, as well as other representative objects, were then placed in this treasure-house, which was specially built for the purpose, and they are there at the present day. Other specimens in Tōdaiji represent the early part of the Nara epoch (709-84 A.D.). Now, with the exception of one or two straight blades, which are said to have belonged to the Emperor Shōmu (died in 756 A.D.), all the swords in these collections differ entirely from those of the dolmens, both in blades and furniture. In neither is there a single specimen of the oviform pierced guard and bulb-like pommel which are especially characteristic of the dolmen period. The straight sword had, in fact, died out and been replaced by the slightly curved blade, which is never found in dolmens.

The curious mode, too, of coating iron with copper, so extensively practised in dolmen times, is not seen in any object in these collections, and when copper is used the objects consist entirely of it.

Again, the archaic ornamental designs executed in lines of punched dots have also been given up, and in their place we have elaborate patterns in incised and *repoussé* work. Hence we may, I think, infer that the dolmens are older than the eighth century.

Negative evidence in favour of their being earlier than the seventh century is as follows:

No pewter has been found in them, although pewter vessels were in use in that century.

Coins, too, are absent, although they were then in circulation.

Bronze objects are rare, yet the metal was then in extensive use.

The testimony of the ancient literature also affords support to the approximate date I have given above. According to the *Nihongi*[a] (Chronicles of Japan), compiled in 700 A.D., a special decree was made by the Emperor Kotoku, in 646 A.D., relating to burial-mounds and their chambers, and fixing their dimensions for various ranks, also enacting that the chambers should be built of small stones, and that valuables should not be buried in them in honour of the dead. If this decree

[a] Translation by W. G. Aston, *Supplement to Transactions and Proceedings of the Japan Society* (London, 1896), ii. 218 *et seq*

was enforced, and there is no reason to doubt it, megalithic dolmen building must have then terminated.

Whilst, if we compare the dimensions given in the decree with those of any of the dolmens I have explored and measured, it will be seen that there is not a single case in which they exactly agree, and only four in which they even roughly approximate, and these are megalithic. In fact, none I have examined correspond in dimensions and structure with its provisions, and therefore are presumably of earlier date.

The total abolition of burial in dolmens about fifty or sixty years later by the Emperor Mommu (697-707 A.D.),[a] and the introduction of cremation about the same time, is in favour of this view.

The oldest inscribed stone which I have found, which may be regarded as a tombstone, is on a mound not containing a dolmen, attributed to the Empress Gemmyō, and bears the date 721 A.D.

The date when dolmen building began in Japan does not admit of such an approximately definite determination. The evidence we have to guide us is for the most part vague in character and liable to misinterpretation, and in traversing the field it covers we feel we are often treading on uncertain ground. It is, however, by no means advisable that this question should be altogether evaded, I will therefore venture to attempt its solution, and to assign a roughly approximate time for the advent of this mode of burial, although I do so with all reserve. More systematic exploration will have to be made, especially in Yamato, Izumo, and the Island of Kyūshū, before it can be accurately fixed. One point is certain, *i.e.* that all Japanese dolmens are of the Iron Age, none have been discovered containing only bronze, and none containing implements of stone. The period during which they were built is characterised from its beginning to its close, as I have already pointed out, by its iron swords, the shape of which is entirely distinct from those of bronze. No intermediate forms showing a transition from one to the other have been found, it is hence not unreasonable to conclude that these iron swords were introduced from abroad.[b]

It is also by no means improbable that dolmen building was introduced about

[a] *San Ryō Shi*, a Japanese treatise on burial mounds.

[b] Some of these swords may perhaps even have been imported at first, but they are so numerous and so widely distributed that most must have been made in the country, and this view is strongly supported by the fact that in the west provinces there are vast deposits of magnetic iron sand, an ore easily reducible in the most primitive furnaces

the same time, as this special form of sword has been rarely found in the early simple burial-mounds. Now as iron was known and in use in China as early as 1000 B.C. (Legge), and there was communication between Japan and that country at least as early as 265 B.C., the Japanese could hardly have failed to have then learned the use of the metal, and at the same time to have become acquainted with iron weapons if they had not this knowledge already. It would hence seem to be not unreasonable to assume that not much, if at all, later than this date dolmens began to be built.

The rudeness and megalithic character of the structure of a dolmen, it might be supposed, would afford some clue to its age, but in Japan these features by no means always imply great antiquity.

An exact chronological arrangement of the various types is also impossible, although, I think, the earliest dolmens will be found among those of the simplest plan, such as the *allées couvertes*. From this simple form, in the course of time, was developed the type having a distinct chamber and entrance gallery, and from this again the more highly differentiated dolmen with double chambers was evolved. A still later phase is exhibited in the six dolmens of well-hewn and coursed masonry in the provinces of Yamato and Izumo. If this view of the gradual evolution of the complex from the simple dolmen is correct, then I think we must admit that a long period of time must have been required for its accomplishment. If we allow seven or eight centuries for these developments, and this hardly seems to be a too liberal allowance, then as we have seen dolmen building ended 600 to 700 A.D., the approximate date of its beginning would be shortly before our era, a computation not differing very greatly from that given above.

The evidence derived from the number of dolmens in the country is also not without value in this computation of the length of the dolmen-building age. I have examined in all 406. Besides these, according to the estimates of local officials, village headmen, and farmers in the districts in which they occur, there are not less than 800 others including those which are more or less completely ruined. The total number of dolmens would hence be about 1,200, but this, I think, is decidedly an under-estimate and certainly falls very far short of the actual number originally erected. In every province there is abundant evidence that very many have been destroyed and the geographical names of some of the dolmen districts testify to this, thus we have Yaso-dzuka (the eighty mounds) where only fifteen remain, Sen-dzuka (1000 mounds or "great many") where there are now only about forty.

Now from their construction necessitating the labour of a large body of men, and from the nature of their contents, it will, I think, be admitted that they can only be regarded as the tombs of chiefs or of men in authority and not of the common people. Hence, as their number is so great, and their distribution is chiefly confined to a few centres of limited area and does not extend over the whole country, the period during which they were erected must have been of considerable length, and I would again suggest seven or eight centuries as its probable minimum duration.

From these considerations it would then appear that the beginning of the dolmen period may not have been widely separated in time from the commencement of our era, although it must be remembered that one or two isolated examples would tend to place it in an earlier age.

The scarcity of iron, excepting in dolmens, the rare occurrence of bronze swords in burial-mounds, and the absence of any evidence of the Japanese having been in their stone age in the islands, and their undoubtedly long settlement in the west parts of the country, are also in favour of a more remote date.

A considerable amount of light is thrown on the history, customs, and civilisation of the ancient Japanese by the dolmens and their remains.

In the early part of the period during which they were builders of dolmens, they seem to have been a collection of independent or semi-independent clans of the same race, armed with the same weapons, and having the same burial customs and religious beliefs. They occupied certain distinct centres now marked by extensive groups of dolmens and burial-mounds. These are scattered somewhat irregularly over the country, generally not far from the coast, and are separated from one another by more or less wide tracts of country where few or no dolmens are found. The country was then in fact only very partially occupied by them.

The chief centres are, as I have already pointed out, four in number, viz.

1. The Kyūshū centre, embracing the northern and eastern province of the Island of Kyūshū.
2. The Izumo centre, embracing the provinces of Izumo, Hōki, and Inaba.
3. The Yamato centre, embracing Yamato, Kawachi, and the neighbouring provinces.
4. The Musashi centre, embracing the provinces of Musashi, Kōtsuke, and Shimotsuke.

To these may perhaps be added another, Bizen, and its adjacent province, Bingo, although it is just possible that this centre is of later date than the others.

The province of Yamato, according to Japanese ancient records, was the locus of a central government. Its chief rulers are styled emperors, and are held to have been supreme in authority over the whole nation from the earliest times; but this is open to serious doubt so far as the early half of the dolmen period is concerned. The characteristic form of burial-mound for the Yamato rulers of that time is the huge double mound already described, fig. 10; but precisely the same form of mound is also found in the other centres associated with their groups of dolmens. It is true that these mounds are more numerous, and some are larger in the Yamato centre than in the others, yet, unless the clans occupying the latter were independent, or their rulers were regarded as the equals of the Yamato chiefs, no mounds of this so-called imperial form should be found in them at all. Besides, the objects which have been found in the dolmens of these other districts indicate even greater wealth and magnificence of display than those found in the Yamato centre, to which the sites of successive imperial courts are assigned. The Yamato rulers subsequently acquired sway over them, but not until a considerable part of the dolmen period had elapsed. The other less important groups of dolmens, which form as it were outliers from the chief centres, probably mark the sites of military posts, established to hold the aborigines in check, and so afford security to the main body of the clan settled on the greater plains.

The close resemblance of the contents of the dolmens in all these centres, and the similarity in the structure and form of their chambers, in spite of a few local modifications, show conclusively that in all we have to deal with one race only. The weapons, ornaments, and pottery are, with few exceptions, practically identical.

From what has been stated, it will be seen that the dolmen period in Japan from its beginning to its close was characterised by a well-developed civilisation and a culture which had advanced far beyond the limits of barbarism. During it the clans of the race had driven out the aborigines from the richest portions of the country, had become a settled and united people, and had made great progress in the industrial arts.

The high stage in civilisation to which they had attained might have been thought incompatible with the rude structures of the dolmens of undressed stone which they erected as sepulchres for their famous dead, but the remains which these dolmens have yielded, which I have had the honour of describing, demonstrate conclusively that this is not so, but that weathered boulders and unhewn

blocks were used in their construction with some definite object, probably a religious one, the meaning of which is not apparent, and not because the art of stone cutting was unknown.

Many points, however, are still obscure about this important period in the life history of the Japanese race. More explorations are required for their elucidation, and still more for tracing back that history further in pre-dolmen times. Yet I hope that those it has been my privilege to make and the facts I have endeavoured to elicit from them, may be deemed to be of sufficient interest to justify me in bringing them to the notice of the Society.

APPENDIX.

TABLE I.—DIMENSIONS, ETC. OF JAPANESE DOLMENS.

The dolmens contained in this Table, excepting Nos. 111 to 114, were specially examined and measured by the author, as they are the best preserved examples in the provinces mentioned.

The length and breadth of the chamber and gallery in each case are the dimensions at the floor line.

When the position of the gallery is not given, it is on the median line.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. BIZEN.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
1	Nr. Okayama	12 9	5 5	5 0	—	—	—	—	S. 40° E.	Destroyed	"Allée couverte." Roof of three stones not covered by mound.
2	Do.	15 0	2 1	1 10	—	—	—	—	S. 10° W.	Simple conical	A long cist built of small stones.
3	Do.	31 6	5 6 to 7 1	8 0	—	—	—	—	S. 35° E.	Destroyed	"Allée converte." Roof stones about 5 feet to 6 feet by 10 feet partly uncovered.
4	Do.	14 2	5 0	—	Impf.	4 3	—	—	S.E.	Do.	Ruined dolmen. Gallery in line with W. wall.
5	Do.	15 5	6 8	—	Do.	5 2	—	—	W. 5° S.	Do.	Ruined dolmen. Gallery in line with N. wall.
6	Do.	17 3	7 10	8 6	29 6	4 0	6 1	46 9	S. 10° W.	Simple conical	Roof of chamber of four stones.
7	Do.	15 0	6 0	6 10	11 5	6 4 to 4 3	4 5	26 5	S. 15° E.	Destroyed	Largest stone 10 feet by 4½ feet by 4½ feet. Gallery in line with E. wall.
8	Do.	17 0	5 1	3 10	—	—	—	—	S. 15° E.	Simple conical	"Allée converte." Contains hewn stone sarcophagus.
	PROV. BUZEN.										
9	Nr. Kaharu-machi	5 10	5 0	4 2	Impf.	2 6	3 2	—	S. 30° E.	Do. ruined	Chamber roof of one stone.
10	Do.	6 0	5 4	5 0	24 0	2 1	3 10	30 0	S. 40° E.	Do.	
11	Do.	8 3	5 6	7 3	Impf.	2 4	4 1	—	S.E.	Do.	Chamber roof of one stone. Walls also megalithic.
12	Do.	Inner chamber. 6 0	5 0	7 0	Imperfect.			—	S.	Do.	Dolmen with double chamber.
		Outer chamber 4 0	5 0	7 0							
13	Nr. Kuroda	Inner chamber 10 9	10 8	12 1	41 6	7 0	7 5	68 6	S. 10° E.	Simple conical	Dolmen with double chamber of fine megalithic structure. Inner chamber contains a hewn stone sarcophagus.
		Outer chamber 7 4	7 0	11 7							

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. BUZEN —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
14	Nr. Kuroda	Inner chamber. 12 3 Outer chamber. 9 3	Inner chamber. 9 9 Outer chamber. 6 0	12 9 9 8	27 0	6 7	8 2 to 10 4	56 0	S. 30° E.	Terraced conical, with a square base	Dolmen with double chamber. Several immense stones in both these dolmens.
	PROV. HARIMA.										
15	Nr. Himeji	18 3	7 4	7 0	15 0	4 10	5 4	33 3	S.	Simple conical	Roof of chamber of three stones. Contains sarcophagus of hewn slabs.
16	Do.	8 0	5 10	4 1	6 9	3 7	3 1	15 0	S. 10° W.	Do.	The roof and each wall of the chamber are single stones. Gallery in line with W. wall.
17	Do.	12 5	7 4	9 6	Impf.	4 0	3 11	—	S. 15° W.	Do.	Gallery in line with E. wall.
	PROV. HYÛGA.										
18	Nr. Tsuma	15 6	7 0	7 1	23 0	5 6	5 7	38 6	S. 5° E.	Terraced conical	Surrounded by moat 35 feet wide.
	PROV. HÔKI.										
19	Nr. Nagase	8 0	7 8	—	8 0	5 0	—	16 0	W. 23 S.	Simple conical	Roof stone of chamber 13 feet by 10 feet 6 inches by 2 feet. Gallery in line with S. wall.
20	Nr. Kurayoshi	9 7	7 0	8 0	20 6	6 9 to 8 6	5 6	31 3	S. 15° W.	Do.	Both built of hewn stones, some of immense size. Chamber roof of No. 20 of one stone c. 12 feet by 13 feet by 4 feet. Chamber separated from gallery by hewn slabs. No. 21 contains a cist of slabs.
21	Do.	12 6	10 3	9 7	14 9	10 0	6 9	28 0	S.	Do.	
	PROV. IWAMI.										
22	Nr. Hamada	21 0	5 0 to 5 9	5 9	—	—	—	—	S. 5° W.	Simple conical	"Allée couverte." Roof of four stones.
23	Tsuda, near Masuda	17 0	5 9 to 6 8	7 8 to 6 8	12 10	4 4	5 6	29 10	S.	Do.	Chamber roof of five stones.
24	Do.	14 0	8 0	7 3	11 0	3 8	5 0	25 0	S. 10° W.	Do.	Chamber roof of three stones.
25	Do.	7 6	4 7	4 7	Impf.	4 0	3 7	—	S. 22° W.	Do.	Walls chiefly rounded boulders. Gallery in line with W. side.
26	Do.	11 6	4 3	5 10	—	—	—	—	S. 5° E.	Do.	"Allée couverte." Roof of five stones.

No.	Locality.	Chamber. L.	Chamber. Br.	Chamber. H.	Gallery. L.	Gallery. Br.	Gallery. H.	Total L.	Direction of Entrance.	Mound.	Notes.
	PROV. IWAMI —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
27	Tsuda, near Masuda	16 0	5 8 to 2 1	5 0	—	—	—	—	S.	Simple conical	"Allée converte." Roof of nine stones.
	PROV. IYO.										
28[a]	Asakura	17 3	7 2	7 5	11 1	4 7	5 1	28 4	S. 35° W.	Do.	Roof of chamber three stones.
29	Do.	18 9	7 0 to 5 2	7 2	7 3	3 4	4 5	26 0	E. 30° N.	Do.	Roof of chamber four stones.
30	Do.	13 0	5 6	6 0	Imperfect.			—	W. 30° S.	Do.	Gallery in a line with N.W. side.
31	Do.	13 6	6 6	8 0	10 0	3 8	4 3	23 6	S.W.	Do.	Chamber roof three stones.
32	Do.	19 0	7 0 to 5 8	7 10	5 9	3 6	5 8	24 9	N.W.	Do.	Chamber roof four stones.
33	Do.	17 0	6 6	8 0	Stones removed.			—	W.	Do.	Chamber roof three stones.
34	Do.	12 9	6 10 to 5 5	7 8	4 0	3 1	5 6	16 9	W. 20° N.	Do.	Chamber roof three stones.
35[a]	Do.	18 0	6 10 to 4 9	8 1	9 0	—	6 9	27 0	N. 10° W.	Do.	Chamber roof four stones. Gallery in a line with W. side.
	PROV. IZUMO.										
36	Imaichi	Inner chamber. 19 0	9 9	11 2	12 0	4 5 to 3 0	7 5	43 0	W. 30° S.	Terraced double mound	Rude megalithic double chambered dolmen. Contains two sarcophagi.
		Outer chamber. 10 0	8 0 to 6 4	9 0							
37	Do.	12 6	5 7	6 0	Impf.	4 8	4 6	—	S. 25° W.	Ruined	Walls of hewn, roof of unhewn, stones. Contains hewn stone sarcophagus.
38	Enya, near Imaichi	21 6	8 5	9 9	22 6	5 8 to 3 5	6 6	46 8	W. 25° S.	Do. double (?)	Built of large hewn blocks. Contains two hewn stone sarcophagi.
39	Yasui, near Imaichi	Inner chamber. 8 4	8 1	7 3	8 2	6 0	6 0	28 6	E. 40° S.	Ruined	Built of large hewn blocks. Contains two hewn stone sarcophagi in inner chamber.
		Outer chamber. 7 9	8 0	6 9							
40	Do.	12 10	7 0	7 9	Est. at 18 0	3 0	3 8	—	S. 15° E.	Simple conical	Built of rude stones. Contains two sarcophagi of hewn slabs.

[a] The dolmens of this group (28–35) are all constructed of weathered boulders mixed with broken blocks of granite. The largest stones are those of the roof.

No.	Locality.	Chamber. L.	Chamber. Br.	Chamber. H.	Gallery. L.	Gallery. Br.	Gallery. H.	Total L.	Direction of Entrance.	Mound.	Notes.
	PROV. KAWACHI.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
41*	Hattorigawa	15 0	8 7	8 8	17 0	5 5	6 0	32 0	S. 25° W.	Simple conical	Gallery in line with E. wall.
42	Do.	11 0	7 0	9 6	13 6	4 6	5 5	24 6	S. 25° W.	Do.	Do.
43	Do	12 0	6 0	8 6	17 8	4 3	5 7	29 8	S.W.	Do.	Do.
44	Do.	13 6	7 2	10 2	19 0	5 2	5 6	32 6	S.W.	Do.	Do.
45	Do.	12 1	6 7	9 0	17 8	5 0	5 4	29 9	S. 40° W.	Do.	Do.
46	Do.	11 8	6 3	8 8	11 10	4 2	4 5	23 6	S. 30° W.	Do.	Do.
47	Do.	12 8	7 2	9 10	9 0	4 8	6 0	21 8	S. 10° W.	Do.	Do.
48	Do.	10 8	6 5	7 10	Impf.	4 4	5 0	—	S.W.	Do.	Do.
49	Do.	Inner chamber. 11 0 / Outer chamber. 14 6	7 0 / 8 0	9 6 / 11 0	12 6	6 6	5 3	43 0	S. 35° W.	Simple conical	Double chambered dolmen
50	Do.	12 0	9 6	11 9	19 6	5 9	5 5	31 6	W. 12° S.	Do.	Contains portions of a sarcophagus of hewn slabs.
51	Do.	16 0	9 9	11 6	24 9	5 5	5 9	40 9	W. 5° N.	Do.	
52	Do.	10 8	5 5	7 8	13 4	4 1	5 4	24 0	S. 40° W.	Do.	Gallery in line with E. wall.
53	Yamatake	18 0	8 0	9 6	21 5	4 6	3 8	39 5	S. 25° W.	Conical with doubtful terrace	
54	Do.	11 6	8 0	10 6	16 0	4 8	4 10	27 6	S. 5° W.	Simple conical	Gallery in line with E. wall.
55	Do.	13 4	7 9	10 3	Impf.	5 0	6 0	—	W. 40° S.	Do.	Do.
56	Shijo-mura	15 0	7 0	8 7	12 6	6 0	3 7	27 6	S. 20° W.	Do.	Do.
57	Do.	16 3	6 6	7 0	11 6	5 5	4 4	27 9	S. 5° E.	Do.	Do.
58	Do.	15 4	6 6	8 7	27 8	5 4	5 9	43 0	S.	Do.	Do.
59	Do.	20 6	7 2	9 10	28 6	5 10	6 2	49 0	S. 15° E.	Do.	Do.
60	Do.	14 6	5 8	8 3	18 6	3 6	4 10	33 0	S.	Do.	Do.
61	Do.	15 5	7 8	10 8	Impf.	5 6	5 8	—	S. 20° W.	Do.	
62	Do.	15 6	7 0	9 9	6 6	5 10	6 2	22 0	S. 20° E.	Do.	
63	Shiba-mura (E. Side / W. „)	13 8 / 11 8	Back 10 5 / Front 7 11	10 3	24 0?	2 11	5 1	—	S. 10° W.	Do.	

* The walls of the dolmens of these groups (41–80) are all built of rude unhewn stones, except where specified, often of large size. The roofs are megalithic in all, stones measuring from 9 feet by 7 feet to 14 feet by 9 feet being common.

The roof stones of many are bare, standing out above the earth of the mound. In a few cases the entire dolmen is exposed.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
	PROV. KAWACHI —*continued.*										
64	Dōmyōji-yama, Nr. Kokubu	12 0	6 2 to 6 7	6 4	10 5	6 0	6 4	22 5	S. 5° W.	Simple conical	Gallery in line with E. wall. Contains hewn stone sarcophagus.
65	Do	11 3	6 0	6 1	10 9	5 5	4 6	22 0	S. 5° W.	Do.	Do.
66	Do.	11 3	2 7	3 6	—	—	—	—	S.	Destroyed	Long cist. Walls of small stones. Roof exposed.
67	Do.	10 5	2 6	2 8	—	—	—	—	S. 20° W.	Do.	Do.
68	Do.	12 7	5 3	4 5	No gallery.		—	—	S. 10° W.	Do.	Dolmen standing above ground, with one stone for roof, and cist built of hewn blocks projecting beyond the back wall.
69	Do.	13 7	5 7	8 0	6 3	3 6	3 10	19 10	S. 7° W.	Do.	Dolmen entirely exposed. Gallery in line with E. wall.
70	Do.	16 4	5 0	7 0 4 0	Back Front	—	—	—	S. 4. W.	Do.	"Allée converte" only partly covered with earth.
71	Do.	11 3	6 7	7 10	8 5	3 7	5 8	19 8	S.W.	Do.	Gallery in line with E. wall.
72	Do.	15 8	7 6 to 6 10	7 6	14 9	4 3	3 6	30 5	S 40° W.	Do.	
73	Do.	14 5	3 6	?	—	—	—	—	S.	Do.	"Allée converte."
74	Do.	26 0	6 0	Back 4 9 Front 3 10	—	—	—	—	S. 10° W.	Do.	Do.
75	Do.	10 0	6 0	6 8	12 0	4 9	4 5	22 0	S. 15° W.	Do.	
76	Do.	9 2	5 8	5 8	7 6	3 10	5 8	16 8	S. 15° E.	Do.	Gallery in line with E. wall.
77	Do.	13 6	6 0	7 6	14 0	4 2	3 6	27 6	S. 20° W.	Do.	Do.
78	Do.	13 2	6 5	6 5	8 0	4 0	3 3	21 2	S. 20° E.	Do.	
79	Do.	11 0	4 5	7 0	Ruined.		—	—	W. 10° S.	Do.	
80	Do.	11 0	6 0 to 4 3	6 7	Impf.	3 0	4 8	—	S.	Do.	Do.
	PROV. KŌTSUKE.										
81	Ōmuro	17 0	6 6 to 5 0	5 9	26 0	4 0	5 6 to 7 0	48 0	S. 12° E.	Double, with two terraces and mont	Division between chamber and gallery marked by vertical slabs. Two similar slabs are set up 2 ft. from the entrance.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	Prov. Kōtsuke —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
82	Ōmaro	21 0	8 4	7 6	6 0	4 0	7 0	27 0	S 25° W.	Double, with one terrace and moat	Two low slabs set across the floor divide the chamber into two parts, and another separates the chamber from the gallery.
83	Oya	19 6	7 0 to 6 0	6 6	Stones removed.			—	S. 10° E.	Do.	
84	Nr. Oya	19 0	Back 9 2 Front 6 7	8 0 to 5 0	—	—	—	—	?	Do.	"Allée converte."
	Prov. Mino.										
85	Nr. Akasaka	12 6	4 2 to 5 2	6 6	17 3	3 0	4 10	29 9	S.E.	Simple conical	Chamber roof of four stones.
86	Do.	17 6	6 0	7 6	17 6	3 0	5 6	35 0	S.	Do.	Gallery in line with W. wall. Chamber roof of four stones.
87	Do.	17 6	4 0	—	—	—	—	—	S.E.	Destroyed	"Allée converte" in ruined condition.
88	Do.	27 0	4 4	—	—	—	—	—	S.	Do.	Do.
89	Do.	5 0	2 3	Roof stones removed.	Imperfect.			—	S.	Do.	
	Prov. Ōmi.										
90	Fumon-mura	12 7	7 0	8 0	10 6	3 6	4 0	23 1	S. 23° W.	Simple conical	Chamber roof of two stones.
91	Taniguchi	11 6	6 6	8 9	10 0	2 9	4 0	21 6	S. 5° E.	Do.	Gallery in line with E. wall. Chamber roof of two stones.
	Prov. Settsu.										
92	Sompachi	21 0	10 8	17 0	26 0	5 6 to 7 0	6 6	47 0	S. 20° E.	Terraced conical	Some huge stones in walls and roof. One measures *c.* 16 feet by 9 feet.
93	Sakura-mura	14 6	6 0 to 6 10	7 7	Impf. 10 6	3 6	3 9	—	S.	Simple conical	Chamber roof of three stones.
94	Nakayama	17 0	7 4	10 0	36 0	5 8	6 8	53 0	S. 30° E.	Destroyed.	Chamber roof of two stones. Contains a hewn stone sarcophagus.
95	Yamamoto	9 2	5 6	6 0	21 3	3 10	5 0	30 5	S. 10° E.	Simple conical	Contains fragments of terra-cotta sarcophagus. Roof stone *c.* 9 feet by 8 feet.
96	Do.	12 0	5 9	7 9	Impf.	3 5	5 0	—	S. 30° E.	Do.	

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. SETTSU —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
97	Tsukahara	11 5	6 5	7 5	Do.	2 6	—	—	S.E.	Simple conical	Built of small boulders.
98	Do.	14 8	5 0	7 0	11 0	3 2	5 6	25 6	S. 5° W.	Do.	Gallery in line with E. wall.
99	Do.	14 8	4 5	6 8	2 10	3 4	4 2	17 6	S. 23° W.	Do.	Gallery in line with E. wall of chamber. Chamber roof of five stones.
100	Do.	9 7	5 0	—	5 0	2 7	—	—	S.W.	Do.	Gallery in line with W. wall of chamber.
101	Mi-no-hara	22 2	7 6	10 6	24 0	6 0	6 0	—	S. 25° E.	Ruined conical (terraced ?). Traces of moat	Contains two stone sarcophagi. Walls and roof of huge stones.
	PROV. SHINANO.										
102	Nr. Matsushiro	14 6	7 0 to 9 3	8 0	15 0	5 0	7 0	29 6	S. 30° W.	Simple conical	Chamber roof of four stones.
103	Do.	18 0	5 6 to 4 2	7 5	6 0	3 2	6 1	24 0	S. 35° W.	Do.	Gallery in line with E. wall. Chamber roof of four stones.
104	Do.	14 0	6 9 to 4 9	6 9 to 8 3	Impf.	4 0	6 0	—	S. 15° E.	Do.	Chamber roof of four stones.
	PROV. TAMBA.										
105	Rokuya, near Kameoka	14 4	6 9	9 0	9 0	3 6	4 0	23 4	S. 29° W.	Conical with two terraces	Rude stone shelf 5 feet 3 inches broad by 13 inches thick, projects from back wall. Chamber roof of two stones.
106	Do.	11 6	6 6 to 8 0	8 0	18 4	4 9	4 4	29 10	S.	Simple conical, ruined	Rude stone shelf 3 feet 7 inches broad by 14 inches thick, projects from back wall. Chamber roof of two stones.
107	Do.	12 0	7 2	7 6	22 0	4 0	—	—	W. 5° N.	Do.	Rude stone shelf 3 feet 10 inches broad by 15 inches thick, projects from back wall. Chamber roof of two stones.
108	Do.	11 9	6 5	8 6	4 0	3 0	—	—	S. 5° W.	Do.	Chamber roof of three stones.
109	Do.	13 6	5 0	—	Impf.	3 0	—	—	S. 23° W.	Do.	Chamber roof of two stones.
110	Do.	10 10	6 0	7 0	Do.	4 2	5 0	—	S. 23° E.	Do.	Chamber roof of one stone.
	PROV. TOSA.										
111[a]	Ryōseki	12 2	6 0 to 5 3	—	—	2 2	—	—	W.	—	
112	Do.	11 6	8 0	5 0	—	—	—	—	S. 25° E.	—	"Allée converte."

[a] 111 to 114 were reported to me by Dr. E. Naumann, late Director of the Geological Survey of Japan.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. TOSA. —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
113	Ryōseki	9 0	7 0 to 6 0	—	Impf.	2 0	—	—	—	—	Roof stones all removed.
114[a]	Asakura	17 3	7 4	7 9	14 9	4 3 to 6 3	3 7	32 0	—	—	Built of well-squared blocks.
	PROV. YAMASHIRO.										
115	Andogahashi	17 10	8 5	11 4	26 2	5 2	5 8	44 0	S. 5° W.	Conical with two terraces and moat	Chamber roof of three stones.
116	Ōkamedani	12 0	8 0 to 6 9	10 0	28 0	4 6	5 5	40 0	S. 30° E.	Conical with one terrace	Chamber roof of two stones.
	PROV. YAMATO.										
117	Hirano.	9 9	4 10	3 10	4 8	4 6	3 10	14 5	S. 30° E.	Simple conical	Built of large well-squared blocks.
118	Samida.	22 2	8 7	11 0	26 5	5 1	4 1	48 7	S. 25° E.	Do.	Chamber roof of three stones.
119	Myōhōji	16 6	10 6	9 0	19 6	6 7	5 3	36 0	S. 23° E.	Do.	Built of large well-hewn blocks. The roof stone of the chamber measures 20 feet by 12 feet by 7 feet. Contains a hewn stone sarcophagus.
120	Nr Mise	20 0	14 0	14 0	14 0	4 3	5 0	34 0	N 25° E.	Double, with traces of two terraces	Gallery in line with E.S.E. side. Chamber roof of four stones.
121	Do.	24 0?	18 0?	?	60 0	4 0 to 8 0	8 6 to 10 0	—	S.	Double with three terraces and traces of moat	Built of immense rude megalithic blocks. Chamber contains two hewn stone sarcophagi. It is the largest dolmen in Japan. One of the roof stones is 16 feet long.
122	Nr. Teraguchi-mura	13 10	8 9	8 8	Imperfect.			—	S. 23° E.	Simple conical	Chamber roof of two stones.
123	Do.	20 6	9 10	11 9	26 0	5 10	6 10	46 6	S. 5° E.	Double	Chamber roof of four stones.
124	Yamaguchi	16 2	7 7	8 10	15 7	5 0	5 0	31 9	S. 5° W.	Simple conical	Chamber almost covered by one stone. Gallery in line with E. wall.
125	Narahara	18 4	9 10	13 4	9 0	5 0	7 0	27 4	S. 23° E.	Do.	Chamber roof of three stones.
126	Do.	16 9	9 3	11 0	17 8	4 6	5 7	34 5	S.E.	Do.	Chamber roof of three stones. One stone 8 feet by 9 feet.
127	Koshi	14 9	8 10	8 10	36 7	6 5	5 6 to 6 2	51 4	S 5° E.	Conical, with two terraces and a moat	Built of huge well-hewn blocks. Roof of chamber a single stone.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. YAMATO —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
128	Abe-mura	16 5	9 2	8 5	24 5	6 1	5 8	40 10	S. 5° W.	Simple conical	Walls of chamber of hewn stones in four courses. Roof of chamber a single stone.
129	Do.	14 8	8 3	6 11	23 9	6 5	5 3	38 5	E. 39° S.	Do.	Megalithic. Stones broken, but not hewn. Contains hewn stone sarcophagus. Chamber roof of two stones.
130	Do.	15 8	7 10	7 10	10 2	6 0	4 10	25 10	S. 20° W.	Do.	Built of rude megalithic blocks, one measuring 10 feet by 6 feet 3 inches by 5 feet 4 inches.

TABLE II.—SARCOPHAGI IN JAPANESE DOLMENS AND BURIAL MOUNDS.

No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of Sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
					ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	The cover in all cases is a single hewn block.
	STONE SARCOPHAGI.											
1	Coffer of a single hewn block	In dolmen Tab. I. No. 8	Bizen. Nr. Okayama	S. 15° E.	—	—	—	5 4	2 3	—	6 to 7	Cover gone.
2	Do.	Do. No. 13	Buzen. Kuroda	W. 10° S.	7 11	3 10	—	6 3	2 4	1 9	9 to 10	Cover 1 foot 9 inches thick.
3	Coffer of hewn slabs	Do. No. 15	Harima. Nr. Himeji	S.	—	—	—	5 9	2 2	2 3	6½	Cover 1 foot 1 inch thick.
4	Coffer of natural slabs	Do. No. 21	Hōki. Nr. Kurayoshi	W. 15° N.	—	—	—	7 2	3 10	4 4	c. 6	Cover gone.
5	Coffer of hewn slabs	Do. No. 36	Izumo Imaichi	S. 30° W.	—	—	—	5 1	2 5	1 11	9 to 10	In outer chamber. Cover 11 inches thick.
6	Coffer of single hewn block	Do. No. 36	Do.	Do.	10 11	5 6	4 6	Top. 9 0 Bottom. 9 4	3 8 4 6	3 6	—	In inner chamber. Cover 1 foot 11 inches thick. Large opening hewn in front side.
7	Coffer of three hewn blocks.	Do. No. 37	Do.	S. 25° W.	—	—	—	7 4	2 9	1 6	7	Cover 1 foot 5 inches thick.
8	Coffer of single hewn block	Do. No. 38	Izumo. Enya, nr. Imaichi	W. 25° S.	9 1	4 4	4 1	Top. 7 4 Bottom. 7 9	2 10 3 3	3 2	7 to 10	Large opening. hewn in front side. Cover 1 foot 8 inches thick.
9	Do.	Do. No. 38	Do.	S. 25° E.	6 10	4 5	3 0	5 10	3 1	2 3	6 to 8	Do.
10	Do.	Do. No. 39	Izumo. Yasui, nr. Imaichi	S. 40° W.	—	—	—	6 6	2 7	1 7	8 to 9	Large opening hewn in front side. Cover 2 feet 2 inches thick.
11	Do.	Do. No. 39	Do.	Do.	—	—	—	7 1	3 2	1 3	6 to 7	Cover gone.

No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of Sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
	STONE SARCOPHAGI —*continued.*				ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	The cover in all cases is a single hewn block.
12	Coffer of hewn slabs	Do. No. 40	Do.	S. 15° E.	—	—	—	4 11	2 3	1 8	7½	Cover 7 inches thick.
13	Do.	Do. No. 40	Do.	Do.	—	—	—	5 8	—	—	—	Ruined. Ends only left. Cover of two rough slabs.
14	Coffer of rudely hewn slabs	Do. No. 50	Kawachi. Hattori-gawa	W. 12° S.	—	—	—	5 7	3 1	2 5	17	Ruined. Cover a boulder hewn on lower side only.
15	Coffer of single hewn block	Do. No. 64	Kawachi. Dōmyōji-yama	S. 5° W.	7 0	3 3	2 6	5 8	2 3	1 4	7½	Cover 1 foot 3 inches thick.
16	Do.	Do. No. 65	Do.	Do.	6 9	3 4	2 5	5 7	2 2	1 3	c. 7	Do.
17	Do.	On summit of burial mound (conical)	Kawachi. Nr. Dōmyōji	S.	—	—	—	6 2	1 9	1 4	c. 5	Do.
18	Do.	In burial mound (ruined)	Kawachi. Nr. Furuichi	N 15° E.	—	—	2 1	5 8	Top. 1 10 Btm. 1 5	0 10	c. 5½	Cover 1 foot 5 inches thick. Head of skeleton N. 15° E.
19	Coffer of hewn slabs	Double mound	Kōtsuke. Ambori	W. 20° S.	—	—	—	5 9	2 3	2 7	c. 8	Cover gone.
20	Coffer of single hewn block	In dolmen Tab. I. No. 94	Settsu. Nakayama	S. 30° E.	5 10	3 6	2 4	—	—	—	—	Cover 1 foot 7 inches thick.
21	Do	Do. No. 101	Settsu. Mi-no-hara	S. 25° E.	6 7	2 9	2 3	5 5	1 11	1 2	c. 5	Cover 10 inches thick.
22	Coffer of hewn slabs	Do. No. 101	Do.	Do.	—	—	—	6 0	2 11	3 1	c. 9	Cover 2 feet 3 inches thick.
23	Coffer of single hewn block	Do. No. 119	Yamato. Myōhōji	S. 23° E.	7 9	3 9	—	6 1	2 3	1 6	9 to 10	Cover 1 foot 3 inches thick.
24 25	Do.	Do. No. 121	Yamato. Mise	One S. One W.	—	—	—	—	—	—	—	Dimensions unknown as dolmen full of water.
26	Do.	Do. No. 129	Yamato. Abe-mura	E. 39° S.	7 10	4 9	3 1	—	—	—	—	Cover 2 feet 1 inch thick.

No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
					ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	
	STONE SARCOPHAGI —*continued.*											The cover in all cases is a single hewn block.
27	Coffer of single hewn block	In ruined dolmen	Yamato. Nr. Gose	S. 23° W.	7 10	3 10	3 6	6 2	2 6	1 9	c. 8	Cover 2 feet thick.
	TERRA-COTTA SARCOPHAGI.											
28	Coffer in one piece	In dolmen now destroyed	Settsu. Sakurai-dani	—	—	—	—	4 9	1 4	0 7½	c. 1	
29	Coffer in two pieces	?	Bizen. Isokami-mura	—	—	—	—	5 2	1 8	1 2	1½ to 2	

XXI.—*The Domus Inferior or Frary of our oldest Charterhouses. By the Rev.* Henry Gee, *B.D., F.S.A.*

Read 20th May, 1897.

Anything that enables us to picture the life of our old monasteries cannot fail to prove interesting to students of English archæology; I venture therefore to call your attention to a very characteristic feature of our oldest Charterhouses which, so far as I know, has escaped the observation of those who have examined the history of monastic remains in this country.[a]

The two Charterhouses in question are Witham and Henton, in Somersetshire; the one founded by Henry II. in expiation of his guilt in the murder of St. Thomas of Canterbury, the other some half-century later by Ela, widow of William Longespée, earl of Salisbury, in pursuance of the intention of her late husband, an intention promoted and fostered by Edmund Rich, treasurer of Salisbury, afterwards archbishop of Canterbury. Both these monasteries possessed a *Domus Inferior*, which in England was called a frary, or "le frary," and the existence of this characteristic differentiates Witham and Henton from all houses of the same Order in England, for no other English Charterhouse, so far as I can discover, had a *Domus Inferior*, and, as we shall see, Charterhouses with this institution are entirely different both in design and life from those which have it not.

It may be well at the outset to give a very brief account of the *Domus Inferior* at the mother house of the whole Order, the Grande Chartreuse; for in the twelfth and thirteenth centuries, when new houses were regulated by monks from the house of St. Bruno, there was, the Carthusian annals show us, a very close conformity of design between the new and the old. It is highly probable that this general

[a] But see Dimock's *Magna Vita S. Hugonis Episcopi Lincolniensis* (Rolls Series 37), 384.

correspondence was far more closely kept up for a century or two in the Carthusian Order than was the case with houses of other Orders. Those who have driven or walked from Grenoble to the Grande Chartreuse may remember that after crossing a bridge and entering the boundaries of the Desert from St. Pierre or St. Laurent they were shown a substantial set of buildings with a church, and so on. They imagined, perhaps, that they had reached the monastery, but this is not the Charterhouse proper, which is still an hour's journey on beyond. It is the *Domus Inferior*, which is locally called *Currière* or *Correrie*. In its beginnings it dates back to early in the twelfth century, but since that time it has passed through many vicissitudes of outward form and use. The main building is now used as a hospital; in the eighteenth century it was the printing and publishing department of the Order, and at other times it has been put to other uses.[a]

Now we are fortunate in possessing the early Customs of the Carthusians as they were drawn up by Guigo, the fifth prior of the Grande Chartreuse,[b] who was a contemporary of St. Bernard in the early twelfth century. And before we see what they tell us of the use of the lower house I may add here that these Customs were prefixed to all subsequent editions of the Carthusian statutes, and were carefully annotated by a competent authority in the seventeenth century, so that we are able to see not only the early customs, but side by side with them the changes which were introduced in later centuries, through stress of circumstance or by resolution of the general chapter of the Order. It is scarcely too much to say that nearly half the Customs of Guigo would be meaningless without the practical commentary of the *Domus Inferior*. Putting together what Guigo says, we are able to gain a tolerably clear conception of the place it held in the Grande Chartreuse and its life. It was, then, an entirely distinct establishment from the monastery proper, and stood at a much lower elevation on the mountain. It was the home of the *conversi* or lay brethren, who lived here under the supervision of the procurator. The monks proper, or fathers, who were all priests, lived in their cells on the mountain top with their own cloisters and church and other buildings. The fathers with their prior, like the elders with Moses in Exodus, c. xxiv., worshipped God on the mountain, whilst the lay people remained below. All noisy work was relegated to the *Domus Inferior*, the milling, the tanning, the carpentering, and so forth.[c]

[a] See *The Monastery of the Grande Chartreuse*, by a Carthusian Monk, 5, 209.

[b] Migne's *Patrology*, vol. 153.

[c] *Ibid.* cols. 667, 668, 669, 680.

Such, then, was the design of the lower house. In order to carry it out a considerable number of ordinances were made, which it would be wearisome to enumerate. Reference may be made to a few of them. We have already seen that the *conversi* had their own church here; they also had a chapterhouse, a kitchen, and so forth. Rules were made for their regulation. The prior spent every fifth week in the lower house, but on ordinary occasions the procurator managed everything, with constant reference to the prior for advice. Full directions were given for the services of the lower church,[a] and for the private devotions of the lay brethren, which were often in their own language. The procurator[b] was their priest and minister, and was charged to retire frequently for prayer and meditation that he might edify them the more. As time went on, barns and buildings round the lower house increased, and cottages seem to have been built for male servants and *mercenarii* who were employed by the procurator on the monastic lands.[c] These *famuli* and *mercenarii* probably lived within the boundaries of the lower house, and never came higher than the entrance of the upper house, but the lay brothers came up on certain festivals, when they had their place reserved for them in the church and chapterhouse. The days on which they did so were carefully prescribed.

But besides being the monastery of the *conversi*, the lower house was utilized for other purposes. It was found convenient on occasion to transmit thither any who fell sick in the upper house, and the Customs prescribed the method of tending the sick monks there.[d] This usage was suggested by the milder atmosphere at the *correrie*. Visitors, too, were first received at the *Domus Inferior*,[e] and were not always allowed to proceed any farther. The commentator on the Customs tells us rather pathetically that the number of those who sought entertainment was very large, and it became necessary to preserve the quiet of the upper house by retaining such guests below. Rooms were provided for their entertainment.

It is time to turn from the type and theory of the *Domus Inferior* in order to see what traces of its existence can be found at Witham and Henton. It is *à priori* most likely that St. Hugh, for some years procurator in the lower house of the Grande Chartreuse, would reproduce at Witham an institution so familiar to himself, and indeed it is probable that in his time a Charterhouse without a *Domus Inferior* would scarcely have been considered a Charterhouse. In the

[a] Migne, 153, col. 723. [b] *Ibid.* col. 667. [c] *Ibid.* col. 681.
[d] *Ibid.* col. 667. [e] *Ibid.* col. 669.

Magna Vita of St. Hugh,[a] one of the most interesting surely of medieval lives, we have ample documentary evidence as to the lower house at Witham. The writer describes St. Hugh's uncertainty as to the site of the greater and smaller churches;[b] he speaks of the "coetus gemini consistentium ibi monachorum et conversorum"; and when St. Hugh bids his last farewell, he takes leave first of the fathers, and then betakes himself to the dwellings of the lay brethren, and keeps vigil in their church.[c] And that church of the *conversi*, restored by Mr. White, still survives at what is called Witham Friary. For at Witham, though we know from what we have seen that there was an upper house, its remains exist no longer, and after some examination and much inquiry I have been quite unable to identify the exact site. It must probably be sought on rising ground, considerably to the east of the present Witham Friary. That it was quite separate is made clear by the particulars of grant to Ralph Hopton in 1544, to say nothing of the distinction intended by the word frary or friary. With the exception of the minor *ecclesia* there are very few structural remains of the lower house, but the large fishpond hard by is well worth a visit, for it seems to have been a regular fish-breeding establishment.

At Henton there was a slight modification of the original idea of a Charterhouse, in that the monastery itself was situate not in an *eremus*, as at Witham and other early houses, but in the park of Countess Ela. The monks would perhaps on that account be the more anxious to keep in all other respects as closely to the type of a Charterhouse as they could. And so, without doubt, they built the *Domus Inferior*, which we can still trace. The upper house is on a hill top, the lower is more than half a mile distant on the banks of the river Frome. We can still trace the winding path which leads up through Hinton Wood to the existing remains of the monastery. Along this road, once well paved, the procurator with his lay brethren passed up and down to keep the festival days at the upper house. It led probably to the smaller cloister where there were cells for the lay brethren, and offices in which they bestowed the goods which they had brought up from the house below. The procurator at Henton must have been relieved of one troublesome office which fell heavily on St. Hugh in the lower house at the Grande Chartreuse. There were probably no guests to entertain at the Henton *Domus Inferior*, for the configuration of the land proves that strangers approaching by the highway must have reached the upper house first; and an Exchequer deposition

[a] *Magna Vita S. Hugonis Episcopi Lincolniensis*, ed. J. F. Dimock, London, 1864 (Rolls Series 37.
[b] *Ibid.* 68.
[c] *Ibid.* 219.

proves the existence of a guest-house near the highway, and this *hospitium* still survived at the beginning of the seventeenth century. But to return to the lower house, we may still see, at what is locally known as "Friary," the old corn mill with its large reservoir, and another reservoir higher up, whilst a level spot is yet called "Old Church." In the rough wall which surrounds "Friary," there are remains of wrought stones, and the cottagers speak of foundations which they know to exist at no great depth beneath the surface of the ground.

But now comes the question, whether the *Domus Inferior* was kept up during the whole history of Witham and Henton. No other English Charterhouse, I believe, possessed a lower house, and it is clear that when after an interval of 150 years the London Charterhouse was founded, none was built there. By this time, the Carthusians tell us,[a] it was recognised in the Order that the Carthusian ideal was better kept by building a single large monastery, wherein all, both clerical and lay, were directly under the prior's eye. And so it seems to have become usual to change the *Domus Inferior* into an ordinary grange. This change, I believe, to have taken place both at Witham and at Henton. At Witham the circumstances are described. In 1458 the prior and convent of Witham petitioned the bishop of Bath and Wells for his license to erect a baptismal font within the frary church, and to consecrate a piece of ground near the same church as a cemetery. The document, which exists in bishop Bekynton's register, sets forth the reason of this startling request.[b] It is stated that in times past there were plenty of people to come forward and seek profession as lay brethren, and consequently there had been no lack of men to till the land and perform other offices within the *termini* of the monastery. All however was now changed, and they had no sufficient number of *conversi* to do the necessary work within the limits of the monastery. Meantime, the land could not be allowed to fall out of cultivation, and the fathers must live, and so the convent permitted secular persons of both sexes to dwell within the monastic boundaries and to build themselves cottages there. It was on behalf of these cottagers that the font was to be erected and the cemetery consecrated. As I understand the petition it amounts to an abandonment of the *Domus Inferior* after nearly 300 years service, and the prior now proposes to make it into a parish church or chapelry for the *mercenarii* and their families, withdrawing the lay brethren, who still existed, into the *Domus Superior*. In other words Witham was now conformed to the pattern of the later Charterhouses elsewhere.

We have ample proof in the Carthusian annals that the difficulty experienced at Witham was felt elsewhere and before this date. The general chapter of the

[a] Migne, col. 668.

[b] Add. MS. 6966, f. 89.

Order in 1375, and again in 1387, drew attention to the fact that it was a flagrant violation of the first rules of the Order to allow women to live in any houses or granges in which persons dwelt in the Carthusian habit. The reference is clearly to the lower house, in which *conversi* dwelt, and it was most emphatically laid down in the oldest Customs that no woman might enter the *termini privilegiati*, as they were called, of upper or lower house.[a] But, evidently, through the dearth of labourers caused by the ravages of the Black Death, it was impossible to keep the lower house going, or to get adequate male service. The consequence of it all was that the monks were forced to allow cottagers with their families to live in and around the lower house. It was made an ordinance of the provincial visitors to inquire into this in 1392.

Thus then the lower house at Witham became a small village, and its original design was abandoned owing to causes which had been operating for some time. I believe that the same change took place at Henton. There is a very curious entry in Bishop King's Register under date 1498.[b] It contains a license to the Prior of Henton to transfer certain bodies which had been buried "in a profane place among bushes and other venomous beasts" (so it runs) to consecrated ground. Now surely it would not be necessary to get the bishop's license to exhume bodies that had been buried, say, in a wood. Is it too bold a conjecture to suggest that the *minor ecclesia* with its cemetery had been given up, and the *Domus Inferior* converted into a grange long before 1498, and that if so the site of the cemetery had meanwhile become overgrown with bushes, so that the father prior now desired to transfer from it to the cemetery of the upper church those who had been buried below? But that is not my only reason for believing that the Henton *Domus Inferior* had been converted, and its church pulled down, for I find in the particulars of grant that there is no mention whatever of the buildings distinctive of a lower house. Indeed a document exists which shows that buildings in the Frary had been leased out before the dissolution of the monastery. It only remains to add that there was no need for baptismal font or cemetery at Henton Frary, as there was a church in the village of Henton, and another at Freshford which is close to the Frary.

[The general documentary authorities for this paper are the *Consuetudines* of Guigo in Migne's *Patrologia*, vol. 153; *Statuta Ordinis Cartusiensis*, 1510; *Nova Statuta*, 1736; *Annales Cartusienses*, and *Ephemerides Cartusienses*, lately printed. The best modern edition of the Statutes is *Disciplina Ordinis Cartusiensis*, Montreuil, 1894. For the Wells Registers, see the Hutton Transcripts, Add. MS. 6966.]

[a] Migne, col. 681.

[b] Add. MS. 6966, f. 153.





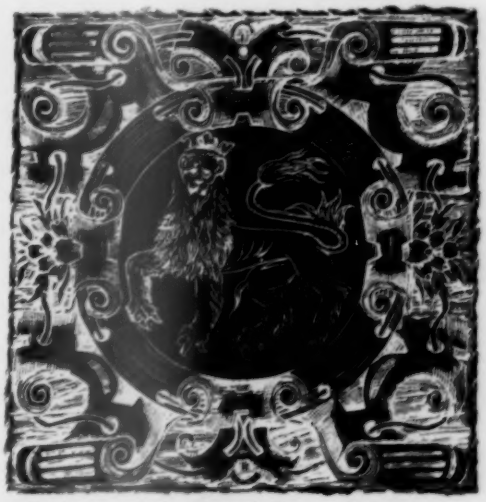
A SIXTEENTH CENTURY MATHEMATICAL INSTRUMENT CASE (FRONT AND SIDE VIEWS). FULL SIZE.

APPENDIX.

A Sixteenth Century Mathematical Instrument Case.

January 21st, 1897.—Percy G. Stone, Esq., F.S.A., exhibited a case of Mathematical Instruments of the sixteenth century, upon which he read the following notes :

THIS instrument case, which I have the honour to lay before you, is the property of Dr. English, of Sleights, Yorks, by whose courtesy I am enabled to exhibit it this evening. Of its history nothing is known beyond the fact that it was acquired by the owner's grandfather; an extensive collector of interesting *objets d'art*. That it was made for some influential or wealthy person is evident from the care bestowed on the workmanship of the case, and the elaborate finish of the instruments.



Device on top of a Sixteenth Century Mathematical Instrument Case. (Full size.)

The case, which is of gilt brass, is four-sided, each side being 2⅜ inches wide, and closed at the angles by ornamental balusters of refined detail, supported on cherubim feet. (Pl. XLII.) The total height is 7½ inches. The lid is hinged and secured on the front by a hasp and cruciform rim lock highly engraved. The sides are ornamented with classically draped figures of Peace and War with their attendant satellites Abundance and Poverty. The front panel, Peace, represents a figure seated to the left, the left hand on an urn, the right apparently holding the cover. In the left top corner is a dove with an olive branch in its beak. The legend, which is engraved on the lock case, is *Pax orbi exopstatissimi*. The right hand panel has a figure seated to the front, the head inclined to the right. In the left hand a branch bearing fruit and leaves, in the right a small scroll. To the right of the figure a group of fruit and cereals. Above in a scrolled

border the legend *Abundantia Pacis filia* The left side panel contains a figure seated to the left, the body to the front. In the back ground are a house in flames and a leafless tree. The legend is *Pauperies Belli filia*, enclosed in a border as before. On the back panel War is represented as a helmeted female seated with the head inclined to the left. The left hand holds a palm branch, the right leans on a cuirass or panoply of the conventional classic form. Behind the figure is a lance and spear. The legend above is unusual and significant, *Bellum fax Mundi*. The figures of War and Abundance are superior in conception and execution to those of Peace and Poverty, and are rather Italian in feeling.

The top bears a crowned lion passant gardant within an ornamental border of the usual Elizabethan form, while the whole of the inside of the lid is filled with an elaborate engraved panel of foliage work. On the bottom within a plainer cartouche is the name of the maker, *Barthelmewe Newsum*.

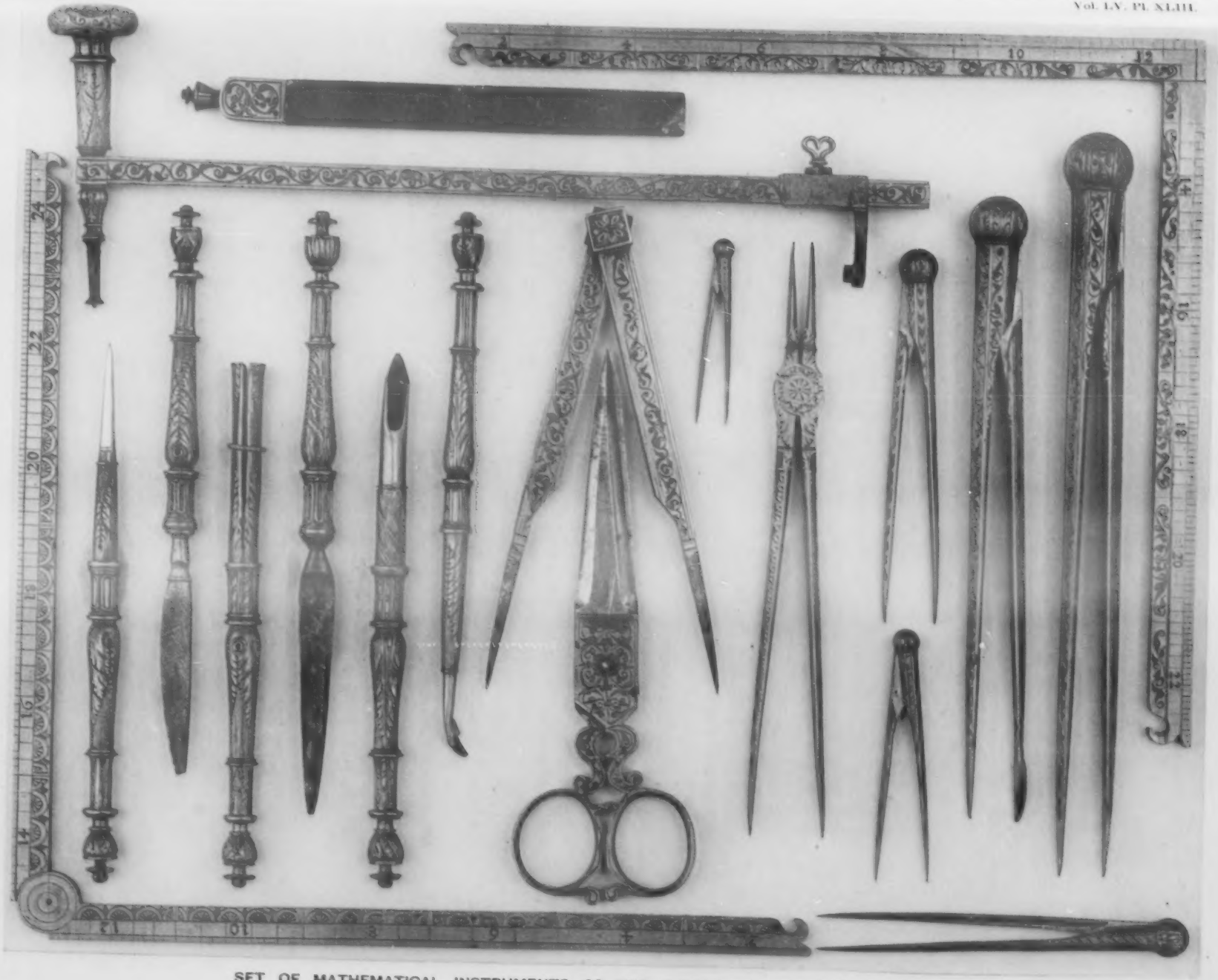


Maker's name on a Sixteenth Century Mathematical Instrument Case. (Full size.)

The top and bottom rims of the case are enriched with a chased cable moulding, and the frieze round the lid is engraved with a foliage scroll of very refined detail.

The instruments, which are fitted upright into a hard wood receptacle capped with brass pierced to receive them, are elaborately chased and gold washed. (Pl. XLIII.) They were originally twenty in number consisting of

1. A pair of scissors.
2. Two knives with interchangeable blades.
3. Three knive blades (*missing*).
4. A sharpening hone.
5. A foot rule, English measure.
6. An angle or set square.
7. A sector? (*missing*).
8. A penholder with nib.
9. A pencil-holder.
10. A pricker.
11. A beam compass, for describing large circles.
12. A compass pen.
13. A drawing pen.
14. A pair of proportional dividers.
15. A pair of square dividers, steel pointed.
16. A large pair of compasses, 6 inches.
17. A smaller pair of compasses, 3 inches.
18. A smaller pair of compasses, steel pointed, $2\frac{7}{8}$ inches.
19. A smaller pair of compasses, 2 inches.
20. A smaller pair of compasses, $1\frac{1}{2}$ inch.



SET OF MATHEMATICAL INSTRUMENTS OF THE SIXTEENTH CENTURY. (FULL SIZE.)

The accurate finish of these instruments is remarkable, and the double action of the beam compass worthy of notice.

Of the maker, Bartholomew Newsome, little is known beyond the fact that he was a clock and dial maker of London, who flourished during the reign of Elizabeth and died in 1593. The only other work of his that I have come across, a small pedestal striking clock in the British Museum, is inferior, both in design and execution, to this instrument case. As the Clockmakers' Company was only incorporated in 1631, Newsome's name naturally does not appear in its records, and I have failed to discover any mention of him among the books of the Blacksmiths' Company, to which clockmakers, prior to 1631, belonged.

From *Former Clock and Watchmakers and their Work, by* F. J. Britten,* I extract the following notes:

"Bartholomew Newsam or Newsham, one of the earliest makers of portable clocks whose work survives, lived in the Strand. In Calendar of State Papers is a grant in 1572 to B. N. (Barth. Newsam) of the office of clockmaker to the Queen, in reversion after the death or surrender of N. U. (Nich. Urseau), the then royal clockmaker. In 1583 there is a letter dated Aug. 5th, from Bartilmew Newsham to Sir Francis Walsyngham, desiring him to favour the writer's petition to Her Majesty for the augmenting a certain number of years wherein he had moved Sir Philip Sydney to speak for him. In 1590 is a grant to Bartholomew Newsham of the office of clockmaker to the Queen, vice Nicholas Urseau, deceased.

By his will, 1586, he bequeathed to his apprentice his 'seconde clock,' to a relative his 'best vice save one, a beckhorne to stand upon a borde, a great fore hammer and to hand hammers a grete large beckhorne in my back shoppe.' To different friends he left 'a sonne dyall of copper gylte,' a 'cristall jewell with a watche in it garnished with gould,' a 'watche clocke in a silken purse,' and a 'sonne dyall to standle uppon a post in his garden.' That he intended his son to carry on the business is evident from the clause 'all the rest of my tooles I give unto Edward Newsom my sonne with condicion that he become a clockmaker as I am, yf not I will the foresaid tooles to be sould by my executors.'

As I can find no record of this Edward Newsom we may conclude he did not follow his father's business, or that he died before he took out his livery.

With regard to the original owner of the case, it seems more than probable that it was made for Queen Elizabeth herself, perhaps a present from her clockmaker. The lion on the top is, as charged on the royal arms—gardant passant; and there is no motto or armorial shield, as one would suppose would have been the case had it been made for a nobleman or gentleman of the period."

* London, 1894.

Notes on a Silver Dish with a figure of Dionysos from the Hindu Kush.

March 18th, 1897.—Charles H. Read, Esq., Secretary, exhibited a Silver Dish with a figure of Dionysos from the Hindu Kush, on which he read the following notes :

"The silver dish (Pl. XLIV.) I have the honour to exhibit was found in August, 1892, near Buddhigharra, about four miles west of Tank, a town in the Dehra Ismail Khan district of the Punjab, and formerly the capital. It was discovered by a native on one of the mounds common in the district, and seems to have been exposed by heavy rains. With it were found what are described as a silver cup and saucer, but these were unfortunately melted before they were seen by Europeans. The dish was ultimately given by a friend to Mr. M. Longworth Dames, divisional judge at Jehlam, who very kindly offered it as a gift to the British Museum.

I may state, as an apology for the little real information I can give about it, that, although I circulated photographs to all my friends familiar with Indian archaeology, none could give me the least information, as to date, or as to what people had made it, nor where another such representation could be found. The one man who could perhaps have put me on the track was the late Sir Alexander Cunningham, whose vast knowledge of Indian antiquities was equalled by his generosity in imparting it.

The dish is made of a plate of silver, apparently, from the colour of the oxide, alloyed with copper, and the design has been executed by the *repoussé* process from behind, and finished in front by chasing. In the centre is a circular medallion, surrounded by radiating wavy flutes, increasing in width towards the circumference, where they form a scalloped edge. The central subject is a man seated, nearly naked, drinking from a rhyton held in his upraised right hand and holding the neck of a full wine-skin in his left; upon his right hand is seated a woman holding a cup in her left hand and a garland in her right. This figure is small in proportion to the man. The whole is surrounded by a thick grape vine, with grapes and leaves growing from each side. The background and some details are gilt. The man wears a crown of vine leaves and grapes, grapes as earrings, and curly hair and moustache; round his neck is a necklace or torc and bracelets on his wrists. He is shod in buskins, with curled-over toes, reaching to the calf of the leg. He would appear to be seated on the ground, and across his thighs is carelessly cast what may be a loosened waist-band; but in its present position it leaves the figure somewhat more obviously naked than is usually the case in ancient Indian art.

The figure of the woman is clearly intended merely as an appropriate accompaniment of the subject; and the difference in proportion is evidently intended to accentuate the importance of the male figure. She is dressed in a mantle fastened on the breast, hair in a plait down the back, and with a stout twisted waist-band from which descends a garment concealing the feet as she



SILVER DISH FROM THE HINDU KUSH.
(FULL SIZE.)

sits. The style of this figure very nearly resembles that of Hindu sculptures of medieval times, and taken alone can scarcely be said to indicate any influence outside Indian art.

In the male figure on the other hand are found several details pointing to a connection with Central Asia, and perhaps remotely with Greece. In the first place the presence of the vine, itself not an Indian plant, would connect the subject with the more temperate regions to the north ; and it may fairly be inferred that the wine in the skin, which he is drinking from the rhyton, is the juice of the grape. The form of the rhyton itself is not Indian, but finds its closest analogue in Greek art. The head of the ibex, or some kindred animal, which forms the lower part of the vessel, is very cleverly drawn, and shows clearly that the artist was familiar with the salient points of the animal. The line joining the end of the rhyton to the mouth of the drinker may possibly be a tube to be placed in the mouth, but I rather think it is a conventional representation of the stream of wine passing from the mouth of the vessel. The wearing of a moustache alone also is rather a character to be found in the early sculptures of the north-west frontier of India. In the Buddhist sculptures from Yusufzai, the kings or Bodhisats are commonly represented with such a moustache as is seen here, and they have also the heavy coiled hair dressed in a similiar fashion. The buskins also with their curled toes are of Central Asian style. These peculiarities, coupled with the unusual nudity of the figure, lead me to think that we have here a design from the hand of a craftsman whose training was rather that of perhaps Bactria, or at least Central Asia, with a lingering trace of classical influence, than truly Indian. In fact there would seem to be every reason for supposing that it was made in the country where it was found.

The country called by the Greeks Paropamisus seems to have been scarcely included in Bactria, or at any rate formed its boundary on the Indian side. It is inhabited now, and probably was also in ancient times, by a hardy race of highlanders, very different from the typical Hindu of the plains. They were theoretically, at any rate, included in the conquests of Alexander the Great, and it was here that, according to Ptolemy, Bacchus came on his journey to India. This latter tradition, though of no historical value, has at least a bearing upon our present subject. It shows that in the classical mind the district in question was associated with Bacchic festivities, and the occurrence of such representations as we have upon this dish would naturally be frequent upon the utensils of banquets.

That the Greek language, and probably a certain measure of Greek culture, was firmly planted in Bactria and the surrounding states that came under Alexander's sway is shown by the coins of his successors, who up to about the Christian era used on their coins Greek legends and afterwards Greek characters for native titles. These by degrees, as the classical influence declined and the Scythians overran the country, became illegible and finally died out, being superseded by the native characters.

At a period which is at present not accurately determined, but probably about the beginning of the Christian era, a very high state of culture existed in the Yusufzai district on the borders of Afghanistan. This was under the influence of Buddhism, and though the art bears the decided impress of classical style, the scenes represented, being uniformly either scenes in the life of Buddha or portraits of his votaries or disciples, are very remote in character from that which we

are now considering, and it would scarcely be suggested that such an object could be the work of the same artists who built the elaborate monasteries of Yusufzai, of which numerous remains can be seen in the Buddhist Gallery at the British Museum.

Probably towards the end of the third century A D. the Sassanian rulers of Persia absorbed the district of Paropamisus into their empire, and imported their peculiar art into the country. With Sassanian art we are now fairly familiar, and it may safely be said that the style of the work before us does not seem to belong to that school.

In the collection of Sir Wollaston Franks, our President, at the British Museum is a typical Sassanian dish, probably of fourth century work. If these were placed side by side the more restrained and severe style of the Sassanian composition would be very marked.

So much for the country in which the dish was made.

As to the person represented, I think there can be no question that we have only to decide between a god and a monarch. He can scarcely be the latter, for several reasons. There is an entire absence of anything that can be called an attribute of royalty, and the evident state of abandonment of the principal figure is scarcely likely to have been chosen by an artist of the court as that in which it would be fitting to represent his master. The vine crown shows, I think, that we have here a god, and that the god is Dionysos is probable, not only from this small but convincing feature, but by the propriety and probability of finding many representations of Dionysos in the country in which Ptolemy places his Dionysopolis, and where the head of the god on the one side and his panther on the other formed the entire design of the coins of one of the successors of Alexander in Bactria (Pantaleon, King of India, 170 B C).

The qualities attributed to Dionysos and to Heracles seem to have been peculiarly suited to the temperament of the hardy mountaineers of the Hindu Kush in late Greek times, and I think that in a modernized form the two cults are still existent there.

I do not mean to imply that the date of the dish is so early as these Greek rulers. There is, in fact, nothing classical about it beyond a mere detail such as the rhyton as a drinking vessel. If we take the opposite extreme of date we find that in the eighth century the Paropamisus became Muhammadan from its conquest by the Moslem rulers of India. Not only from the nature of the scene represented, which is absolutely opposed to the teachings of the Koran, but also from the style of the work, the dish can scarcely be thought to belong to this period.

Its date, then, would be somewhere between the third and the eighth century A.D., a sufficiently wide margin; but in our present state of knowlege of the ancient art of this part of the world, due to the limited number of specimens existing, it seems impossible to produce evidence for greater precision. But short of actual proof of its origin, there is certainly some slight gain in showing what it is not. If it be not Bactrian-Greek work, nor Sassanian, nor Muhammadan, but later than the first and earlier than the last, a *locus pœnitentiæ* might be found for it as Indo-Scythian. During the struggles of the Sassanian rulers with the Roman power it is quite possible that the natives of the Hindu Kush may have been left to their own devices, to practice their worship of Dionysos undisturbed by the propaganda of Zoroaster, or any other creed."

INDEX.

A.

Abbo, abbot of Fleury, 270

Abe-mura (Japan), dolmen at, 448, 453, 466, 521, 523; plan of, 454; sarcophagus in, 454

Abergavenny bullock, horns of, 141

Abrudbanyam (Transylvania), waxed tablets from, 267

Abundance, figure of, on brass case, 531

Abu-Simbel (Egypt), temple at, 30

Abydos (Egypt), temple of Seti I. at, 29

Achilles in Scyros, on wall painting at Pompeii, 311, 312

Ada, 359, 371, 382

Ægos-potami, battle of, 355

Æsica (Northumb.), fibulæ of Celtic fabric from, A. J. Evans, M.A., F.S.A., on, 179; notes on excavations at, in 1894, by F. Haverfield, M.A., F.S.A., 195; armour from, 198; bronze fibulæ from, 179, 181, 187, 397, 403; bronze ring from, 179, 180; coins from, 196, 198; gold ring from, 179, 180; inscriptions from, 196; silver collar from, 179, 180, 397; south gate of, 197; south-west corner of fortress, 196; vault, 197

Æthelwold, Benedictional of, representation of wax tablet in, 263

Aetion, son of Anthas, 350

Agate, beads of, from Japan, 478

Akasaka (Japan), dolmens near, 518

Aki (Japan), burial-mounds at, 441

Albi (France), notes on the cathedral church of St. Cecily at, by R. W. Twigge, F.S.A., 93; chapel of de Cueysse, 98; choir, 108, 110; design of church, 95; fortified enclosure, 100; gateway, statues and bas-

Albi—*continued.*

reliefs on, 96; high altar, 111; interior, 101; metal work, 112; originally part of a military fortress, 94; paintings in the chapels, 105; paintings on the vault of the nave, 102, 112; pavement, 111; plan of church, 94; plan of paintings on vault of nave, 112; porch, 98; restoration of exterior, 99; rood screen, 109

Albinus, Claudius, 148

Aldhelm, 263

Alesia, 182

Alexander the Great, 355, 387

Alexandria, gold chains from, 395, 397; gold bracelets from, 396, 397

Alkmene, on a Greek vase, 117

Altamura, Greek vase from, 118

Alvah (Banff.), bronze armlet from, 191

Amada (Egypt), temple of Thothmes III. at, 29

Amber, beads of, from High Down (Sussex), 211, 212, 213

Ambien Hill (Leicester), 160, 162, 164, 165, 167-169, 174-178

Ambori (Japan), burial-mound at, 523

America, South, cattle of, 142

Analysis of contents of glass vessel found on High Down (Sussex), 207

Anderson, W. C. F., M.A., on the Roman town of Doclea, in Montenegro, 33

Andogahashi (Japan), dolmen at, 455, 520; plan of, 455

Andromeda and Perseus, on wall-paintings at Pompeii, 311, 313

Anglo-Saxon remains from High Down (Sussex), 202

Ani the scribe, 23

Animal remains from Avon valley, 129, 131; Barrington (Cambs.), 126, 127, 131; Bath

Animal remains—*continued.*
(Somerset), 131; Burwell Fen (Cambs.), 129, 130, 134; Cambridge, 153; Chesterford, Great, (Cambs.), 136; Clacton (Essex), 131; Epping Forest, 154, 156; Grimes graves, 134; Ilkley (Yorks.), 136; Lausanne museum, 131; Lyons, 131; Melksham (Wilts.), 131; Newton St. Loe (Somerset), 131; Preston (Lancs.), 131; Reach Lode (Cambs.), 136; Ribble river, 131; Scotland, 131, 132; Selkirk, 131; Silchester (Hants), 135, 421; Tiverton (Devon), 131; Yarmouth, 128
Annei, emperor of Japan, tomb of, 462
Annunciation, the, sculpture of, at Albi, 110
Anselm, archbishop of Canterbury, use of wax tablets by, 263
Anthas, son of Poseidon, 350
Antiope, 350
Anvil, iron, from Silchester (Hants), 252
Apulia, Greek vases from, 119
Architectural remains from Doclea (Montenegro), 53-62; Silchester (Hants), 238, 425, 429
Ares, 356
Ares and Hephaistos, on a Greek vase, 117
Areuanias, 350
Ariadne, marble head of, 303
Ariadne and Dionysus, on wall-paintings at Pompeii, 311, 314, 316
Ariadne and Theseus, on wall-painting at Pompeii, 311, 312
Armlets, bronze, from Alvah (Banff.), 191; Belhelvie (Aberdeen), 191; Bunrannock (Perth), 191; Castle Newe (Aberdeen), 191; Culbin (Elgin), 192; Drumside (Aberdeen), 191; Highdown (Sussex), 214; Kinghorn (Fife), 191; Munich museum, 191; Muthill (Aberdeen), 191; Newry (Ireland), 191, 403; Pittkelloney (Aberdeen), 191; Plunton Castle (Kirkcudbright), 192, 397; Seafield (Fife), 191; Scotland, 403; Stanhope (Peebles), 191, 192, 403; gold, from Alexandria, 396, 397; Breslau museum, 404; Hurstpierpoint (Sussex), 398; Waldalgesheim (Germany), 398; silver, from dolmens in Japan, 480
Armlets—*continued.*
Armour, from dolmens in Japan, 484, 485; Roman scale, from Æsica (Northumb.), 170, 198; Ham Hill (Somerset), 198; Hod Hill (Dorset), 198
Arm-ring, *see* Armlet
Arms: cuirass, 484, 486; dagger, 479; dirk, 484; helmets, 403, 484, 486; javelins, 252; shields, 402, 403; spear-heads, 211, 213, 479, 480, 485; swords, 475, 476, 479, 482
Armstadt, wax tablets at, 275
Arnulf, bishop of Soissons, 268
Arrow-heads, bronze, from Japan, 476; iron, from Japan, 479, 484, 485
Arselis, 351
Artemisia, 352, 358, 359, 360, 361, 362, 372, 378, 381, 382
Asada (Japan), dolmen at, 469
Asakura (Japan), dolmens at, 515, 520
Asclepius, temple of, 377
Ashikaga (Japan), dolmens at, 441, 453; contents of, 475
Assteas, maker of Greek vases, 119
Athelney, abbot of, a prebendary of Wells, 324, 328, 331, 332
Athene, 355, 356
Atherstone (Leicester), 161, 167, 173
Auge and Hercules, on wall-painting at Pompeii, 311, 312
Augustodunum, 182
Avon valley, animal remains from, 129, 131
Aylesford (Kent), bronze brooch from, 183

B.

Bacchante, marble head of, 303
Bacchic procession, represented on wall-painting at Pompeii, 311

Backworth (Northumb.), bronze brooch and coins from, 185, 192
Baldric, abbot of Bourgueil, 258, 264, 268, 269
Bands, bronze, from High Down (Sussex), 211; copper-gilt, from dolmens in Japan, 491; iron, from Silchester (Hants), 422
Barclay, Francis, 154
Barge-poles, gold, from Ireland, 392
Barlow, William, bishop of Wells, 330
Barrington (Cambs.) animal remains from, 126, 127, 131
Barton (Somerset), prebend of, 324
Bates, Cadwallader, 136
Bath (Somerset), animal remains from near, 131
Bath, archdeacon of, 324, 328
Bavaria, use of waxed tablets in the monasteries of, 274
Bayonne (France), church at, 95
Beads, agate, 478; amber, 211, 212, 213; bone, 212; chalcedony, 477, 478; chrysoprase, 478; clay, 477, 478; curved, 477, 478; glass, 211, 212, 472, 477, 478, 486; jasper, 474, 477, 478, 486; jet, 212; nephrite, 478; rock crystal, 477, 478; silver, 477, 478; steatite, 477, 478; from High Down (Sussex), 211-214; from dolmens in Japan, 472, 474, 477, 478, 486; from Silchester (Hants), 252
Beauvray, Mont, 182
Bec, abbot of, a prebendary of Wells, 324, 327
Bedall, Adam de, 4
Belhelvie (Aberdeen), bronze armlet from, 191
Bells, bronze, from Silchester (Hants), 429
Beni Hassan (Egypt), rock tomb at, 22
Benwell (Northumb.), area of Roman fortress at, 195
Berchère, archbishop le Goux de la, 103, 112
Berlin, waxed tablets at, 275
Berthold, 271
Beverley Minster (Yorks.), clerical strike at, A. F. Leach, M.A., F.S.A., on, 1; constitution of the chapter of, 1; documents relating to the strike, 1; grounds of the quarrel, 2; jurisdiction of the chapter, 3;
Beverley Minster—*continued.*
ordinance of archbishop Greenfield curtailing period of residence of canons, 8; ordinance for the ministration of the refectory in the bedern, 8, 19; ordinances made by the chapter, 8; sequel of the story from the Parliament Rolls, 12; visitation of archbishop Nevill, 4
Beverley, Sir Robert of, 3, 4
Bibracte, types of brooches from, 182, 189
Bidatsu, emperor of Japan, tomb of, 462
Biddisham (Somerset), prebend of, 323, 328, 331
Bignor (Sussex), Roman fireplace at, 240
Bingo (Japan), dolmens in the province of, 510
Birdoswald (Northumb.), area of Roman fortress at, 195
Bison, the, 126
Bizen (Japan), dolmens in the province of, 443, 450, 460, 463, 510, 513, 522, 524; pottery from, 498, 499
Bjelopavlic (Montenegro), aqueduct across plain of, 36
Blade-bones, perforated, from Silchester (Hants), 421
Blanchard, picture by, at Albi, 106
Boat, gold, from Ireland, 392
Boat-hook, gold, from Ireland, 392
Bolsena (Italy), bronze pump from, 234, 254
Bone objects: bead, 212; comb, 214; flakes, 402; needles, 252; perforated bones, 421; pins, 252; from High Down (Sussex), 212, 214; Silchester (Hants), 252, 421; tomb of Ollamh Fodhla, 402
Bos Longifrons, 133
Bosworth, the battle of, James Gairdner on, 159; plan of, 178
Bosworth, Market (Leicester), 160
Bowl, glass, from High Down (Sussex), 205, 212; Silchester (Hants), 231; gold, from Ireland, 393
Bowness (Cumb.), area of Roman fortress at, 195
Boxmoor (Herts), mosaic pavements from, 247
Bracelet, *see* Armlet
Brandon, William, 176

Brass-gilt mathematical instrument case, 531
Braughing (Herts), bronze brooch from, 188, 189
Brecon, Maud de, 148
Breslau, gold bracelet in museum at, 404; waxed tabets at, 275
British Museum, pump in, 254; waxed tablets in, 265
Bronze objects:
armlets, 192, 193, 214, 397, 403; arrow-heads, 476; band, 211; bells, 429; boat-shaped vessel, 252; boss, 429; brooches, 179, 181-189, 192, 210-214, 252, 397, 403, 429, 430; buckles, 211, 212, 213; bull's head charm, 429; bust, 209, 212; casket mount, 429; cramps, 213; diadem, 192; discs, 212, 403; harness, 354, 387; heart-shaped plate, 211; helmet, 403; jug, 418; key, 430; mount, 212, 213; nails, 252; pail, 398; pins, 213, 430; plate, 212, 213; pumps, 234, 254; radiated crown, 403; rings, 179, 180, 211, 429, 490; sheath, 213, 214; shield, 402; spatulæ, 430; spoons, 252, 430; statuette of Hercules, 199; statuettes, 239, 303; strainer, 429; strap tag, 212; studs, 211, 212; stylus, 252; swords, 475, 476; toilet implements, 214; tube, 211; tweezers, 211, 252, 430; vessels, 472; from Æsica (Northumb.), 179, 180, 181, 187, 397, 403; Aylesford (Kent), 183; Backworth (Northumb.), 185, 192; Bibracte, 182, 189; Bolsena (Italy), 234, 254; Braughing (Herts), 188, 189; Brough (Westmorland), 184; Caerleon (Mon.), 184; Corby Castle (Northumb.), 185; Evans, Sir John, collection of, 188; Habitancium (Northumb.), 185; Halicarnassus, 354, 387; High Down (Sussex), 209-214; Hochbühel, near Meran, 188; Hod Hill (Dorset), 188, 189; Idria di Baća (Gorizia), 188; Ireland, 403; Japan, 472, 475, 476, 480, 490, 491; Kingsholm (Glouc.), 183, 184, 186; Kirkby Thore (Westmorland), 184, 185; Liguria, 182;
Bronze objects—*continued.*
Martigny, 189; Munich museum, 191; Newry (Ireland), 191, 403; Nonsberg, near Dercolo, 188; Ornavasso, 189; Pannonia, 183; Perugia, 182; Polden Hill (Somerset), 191; Pompeii, 303; Pont-y-Saison (Mon.), 184; Riesenquelle, near Dux (Bohemia), 182; Rotherley (Dorset), 184; Royal Irish Academy, 403; Scotland, 191, 192, 397, 403; Selzen (Bavaria), 188; Silchester (Hants), 239, 252, 418, 429, 430; Stanwick (Yorks.), 191; Stradonic (Bohemía), 182; Thames river, 402, 403; Waldalgesheim (Germany), 398; Witham river, 402
Brooches:
bronze, from Æsica (Northumb.), 179, 181, 187, 397, 403; Aylesford (Kent), 183; Backworth (Northumb.), 185, 192; Bibracte, 182, 189; Braughing (Herts.), 188, 189; Brough (Westmorland), 184; Caerleon (Mon.), 184; Corby Castle (Northumb.), 185; Evans, Sir John, collection of, 188; Habitancium (Northumb.), 185; High Down (Sussex), 210-214; Hochbühel, near Meran, 188; Hod Hill (Dorset), 188, 189; Idria di Baća (Gorizia), 188; Kingsholm (Glouc.), 183, 184, 186; Kirkby Thore (Westmorland), 184, 184; Liguria, 182; Martigny, 189; Nonsberg, near Dercolo, 188; Ornavasso (Italy), 189; Pannonia, 183; Perugia, 182; Pont-y-Saison (Mon.), 184; Riesenquelle, near Dux (Bohemia), 182; Rotherley (Dorset), 184; Selzen (Bavaria), 188; Silchester (Hants.), 252, 429, 430; Stradonic (Bohemia), 182; silver, from Champagne cemeteries, 395; Chorley (Lanc.), 185, 396; Folkestone (Kent), 396; Jezerine (Bosnia), 395; Lauterach, 396; Ornavasso (Italy) 395
Brough (Westmorland), bronze brooches from, 184
Bucket, wooden, from Silchester (Hants.), 417

Buckle, bronze, from High Down (Sussex), 211, 212, 213; iron, from High Down, 212, 213
Buddhigharra (Punjab), silver dish from, 534
Bunrannoch (Perth), bronze armlet from, 191
Burges, Cornelius, 332
Burgh (Cumb.), area of Roman fortress at, 195
Burial-mounds and dolmens in Japan, W. Gowland, F.S.A., on, 439
Burwell Fen (Camb.), animal remains from, 129, 130, 134; flint implements from, 130
Busby, Dr., treasurer of Wells, 333
Buzen (Japan), dolmens in the province of, 513, 514, 522; rock tombs, 474

C.

Caerleon (Mon.), bronze brooch from, 184
Cæsar, representation of the murder of, 266
Calamis, a Greek artist, 200
Cambridge, animal remains from, 153; waxed tablets said to have been found at, T. M'Kenny Hughes, M.A., F.R.S., F.S.A., on, 257
Campania, Greek vases from, 119
Campis, Thomas a, 274
Candlestick, iron, 430; lead, 430
Candaules, 351
Cannon, used at battle of Bosworth, 168
Canosa, Greek vase from, 118
Canterbury and York, quarrel for precedence between the archbishops of, 14
Capua, Greek vases from, 119
Carcassonne (France), churches of St. Vincent and St. Michael at, 95
Caria, coins of, 351
Carlisle, lord, exhibits statuette of Hercules, 199
Carrawburgh (Northumb.), area of Roman fortress at, 195
Cart pole (?), end of, from Silchester (Hants), 430
Carvoran (Northumb.), area of Roman fortress at, 195
Castenet, Bernard de, bishop of Albi, 94
Castle Newe (Aberdeen), bronze armlet from, 191
Castlesteads (Cumb.), area of Roman fortress at, 195
Castrum Novum, near Civita Vecchia (Italy), bronze pump from, 234
Cattle, the more important breeds of, recognised in the British Isles in successive periods, by T. McKenny Hughes, M.A., F.R.S., F.S.A., 125; the Bison, 126; Celtic shorthorn, 133; Chillingham, 144; Highland, 150; introduction, 125; Italian, Type A., 138, Type B., 141; long horns, 154; mediæval reversion to Bos Longifrons, 152; Roman, 137; Romano-British, 135; Roman provinces, 142; Spanish, 142; South American, 142; summary, 157; Swiss, 143; the Urus, 129; Welsh, 150
Chains, brass for suspending tablets, 261; electrum, from Vettersfelde, 395; gold, from Curium, 394; Egypt, 395, 397; Etruscan tombs, 394; Ireland, 394; silver, for suspension between fibulæ, 395; from Champagne cemeteries, 395; Chorley (Lanc.), 185, 396; Folkestone (Kent), 396; Jezerine (Bohemia), 395; Lauterach, 396; Ornavasso (Italy), 395
Chalcedony, beads of, from Japan, 477, 478
Champagne cemeteries, silver chains and fibulæ from, 395
Charcoal, from grave on High Down (Sussex), 213
Charlemagne, use of wax tablets by, 268
Charles, count of Flanders, 271
Charles the Great, figure of, at Albi, 111
Charm, bronze, in form of bull's head, from Silchester (Hants.), 429
Charterhouses, the *Domus Inferior* or Frary of our oldest, Rev. H. Gee, B.D., F.S.A., on, 525
Chartley cattle, 144, 145, 147
Chatelet (France), water pipes found at, 423
Chaucer, mention of tablets by, 264

Chedworth, (Glouc.), mosaic pavements at, 247
Cheney, Sir John, 177
Chesterfield, Richard of, canon of Beverley, 6, 7
Chesterford, Great (Cambs.), animal remains from, 136
Chesterholm, (Northumb.), area of Roman fortress at, 195
Chesters (Northumb.), area of Roman fortress at, 195
Chesters, Great (Northumb.), *see* Æsica
Chikugo (Japan), stone figure from burial-mound at, 503
Chillingham cattle, 139, 144
China, absence of dolmens in, 506; mound-burial in, 440
Chorley (Lancs.), silver brooches, chains, and coins from, 185, 396
Chrysoprase, beads of, from Japan, 478
Church, Rev. C. M., M.A., F.S.A., on the prebendal stalls and misericords in the cathedral church of Wells, 319
Clacton (Essex), animal remains from, 131
Clarke, Somers, F.S.A., of the methods used in making and ornamenting an Egyptian rock-tomb, 21
Clay beads from Japan, 477, 478
Cleeve (Somerset), prebend of, 324, 327, 331, 332
Clerical strike at Beverley Minster (Yorks.), A. F. Leach, M.A., F.S.A., on, 1
Clifford, John, treasurer of York, 17
Coining, process of, in wall painting at Pompeii, 310
Coins, of or from: Æsica (Northumb.), 196, 198; Backworth (Northumb.), 185; Caria, 351; Chorley (Lancs.), 396; Doclea, 52; Douglas (Isle of Man), 398; Eubœa, 140; Frasnes (Belgium), 404; Hiero II., of Syracuse, 357: High Down (Sussex), 209, 212; Kirkby Thore (Westmorland), 184; Lauterach, 396; Ornavasso (Italy), 395; Philistis, 357; Scodra, 38; Silchester (Hants.), 252
Coke, Adam, 4; Margery, 4
Collars, gold, from Frasnes (Belgium), 399, 404; Ireland, 399; in museum of Royal Irish Academy, 405; Serviés-en-Val (France), 400; Waldalgesheim (Germany), 404; iron, of water pipe at Silchester (Hants.), 422; silver, from Æsica (Northumb.), 179, 180, 397
Cologne, Walraf museum, waxed tablets in, 274
Comb, bone, from High Down (Sussex) 214
Comb End (Glouc.), painted wall plaster from, 248
Combe, provost of, 328
Compass, iron, from, Silchester (Hants.), 252, 430; tomb of Ollamh Fodhla, 402
Constantine, emperor, figure of, at Albi, 111; medallion of, at Albi, 106; victory over Maxentius, in mural painting at Albi, 106
Constantinople, notes on the church now called the mosque of the Kalenders at, by E. Freshfield, LL.D., F.S.A., 431; screen in the church of Mone tes Choras, 436; tomb of the Doge Dandolo in St. Sofia, 437
Copper-gilt objects from dolmens in Japan, 480; bands, 491; shoes, 491; tiara, 491
Corbridge (Northumb.), altar from, 199, 201
Corby Castle (Northumb.), bronze brooch from, 185
Cornez, Guillaume de, 273
Coton, Nether (Leicester), 175
Cramps, bronze, from High Down (Sussex), 213
Cratisthenes, 357
Creyghton, ——, dean of Wells, 332
Cross, the, history of discovery of, in mural painting at Albi, 106
Crown, radiated, bronze, in museum of Royal Irish Academy, 403
Crown Hill, 160
Crucifixion, the, on gateway at Albi, 97; in mural painting at Albi, 106
Crumwell, Thomas, dean of Wells, 330
Crystal beads, from Japan, 477, 478
Cueysse, Maître, canon of Albi, chapel of, 98
Cuirass, iron, from dolmen in Japan, 484, 486

Culbin (Elgin), bronze armlet from, 192
Cup, glass, from High Down (Sussex), 205
Curium, gold chains from, 394
Cyparissus, on wall-painting at Pompeii, 311, 313

D

Dædalus and Pasiphæ, on wall-paintings at Pompeii, 311, 314, 316
Dadlington (Leicester), 160, 162, 173, 174, 178
Dagger, iron, from Japanese dolmen, 479
D'Amboise, Louis, bishop of Albi, 96, 102, 112; arms of, 106, 107, 111
Dandolo, Doge, tomb of, 437
Darmstadt, waxed tablets at, 275
David, in mural painting at Albi, 107
Davis, Frederick, F.S.A., note on a Roman force-pump found at Bolsena, Italy, now in the British Museum, 254
Day, Robert, gold object belonging to, 391
Deinocrates, 387
Diadem, bronze, from Stitchel (Roxburgh), 192
Diana, bust of, at Doclea, 39, 43, 53; temple of, at Doclea, 53
Dickon's Nook, 161
Diocletian, emperor, reputed birthplace of, 47
Diodora, the priestess, 201
Diomedes, 355, 356
Dionysos, figure of, on silver dish, 534, 536; on Greek vases, 116, 117; marble head of, 303
Dionysûs and Ariadne, on wall-paintings at Pompeii, 311, 314, 316
Dirce and the bull, on wall-paintings at Pompeii, 311, 314
Dirk, iron, silver mounted, from dolmen in Japan, 484
Discs, bronze, from High Down (Sussex), 212; from Ireland, 403
Dish, silver, from the Hindu Kush, 534
Doclea (Montenegro), on the Roman town of, by J. A. R. Munro, M.A., F.S.A.; W. C. F. Anderson, M.A.; J. G. Milne, M.A.; and
Doclea—*continued*.
F. Haverfield, M.A., F.S.A., 33; architectural fragments from, 53-62; churches, the large, 55, the small, 60; coins from, list of, 52; construction of, 42; destruction of, 51; environs of, 34; history of, 44; inscriptions from, 63, and index to, 90; Podgorica vase from, 41, 43; reputed birth place of Diocletian, 47; sculptures from, 43, 54; temples at, 53; terra-cotta figure from, 43; topography of, 38
Dolmens and burial-mounds in Japan, W. Gowland, F.S.A., on, 439
Dominic of Florence, bishop of Albi, 96, 97; arms of, 97
Domus Inferior or Frary of our oldest Charterhouses, Rev. H. Gee, B.D., F.S.A., on, 525; at the Grand Chartreuse, 525, 526; at Henton (Somerset), 525, 528-530; at Witham (Somerset), 525, 527-530
Dōmyōji-yama (Japan), dolmens at, 449, 470, 472, 517, 523
Doneja, John Francis, painter, 107
Doom, the, mural painting of, at Albi, 103
Dotzinger, Jodocus, 108
Douglas (Isle of Man), hoard of gold and silver necklets, armlets, and coins from, 398
Dresden, waxed tablets at, 274, 275
Drinking-horn, glass, from High Down (Sussex), 205, 211, 213
Drokensford, John of, bishop of Wells, 326
Drumside (Aberdeen), bronze armlet from, 191
Dukle, *see* Doclea
Dunkeld, bishop of, 2

E.

Eadburg, abbess, 263
Ear-rings, gold, from dolmen in Japan, 491; from Kalymnos, 395
Egypt, cattle of, 140; gold bracelet from, 396, 397; gold chains from 395, 397; waxed tablets from, 265

Egyptian rock-tombs, of the methods used in making and ornamenting, by Somers Clarke, F.S.A., 21; carvers' and sculptors' work, 27, 29; decorators' work, 26; first excavation, 24; masons' work, 25; painters' work, 30; roof, 25; rubbers' work, 25; walls, 24
Ela, countess of Salisbury, the charterhouse of Henton (Somerset), founded by, 525, 528
Electrum, chains of, from Vettersfelde, 395
Eleghton, Sir William of, 4
El Kab (Egypt), tomb at, 31
Ely, Talfourd, M.A., F.S.A., on the vases of Magna Græcia, 113; on the house of Aulus Vettius, recently discovered at Pompeii, 301
English, Dr., sixteenth century mathematical instrument case belonging to, 531
English, William, 2
Enya (Japan), dolmens at, 453, 480, 515, 522
Epidaurus, temple of Asclepius at, 377
Epping Forest, animal remains from, 154, 156
Erigenes, John, 263
Eros and Pan, on wall-paintings at Pompeii, 311, 317
Etruscan tombs, gold chains from, 394
Eubœa, coin of, 140
Eugene, pope, 268
Evans, A. J., M.A., F.S.A., on two fibulæ of Celtic fabric from Æsica, 179; on a votive deposit of gold objects found on the north-west coast of Ireland, 391
Evans, Sir John, K.C.B., F.S.A., Gallo-Roman brooch in collection of, 188; gold bracelet, in collection of, 397
Everolph, 270

F.

Falkland Islands, cattle of, 142
Fargis, Berauld de, bishop of Albi, 103
Faun, bronze head of, from High Down (Sussex), 209, 212
Ferrers, Sir Thomas, 170, 172
Fibula, *see* Brooch
Fireplaces, Roman, at Bignor (Sussex), 240; at Silchester (Hants), 240, 429
Fishing-spears, gold, from Ireland, 392
Fitzwilliam, ——, dean of Wells, 330
Flint implement from Burwell Fen (Cambs.), 130
Florence, waxed tablets at, 261, 272
Florentius, 274
Folkstone (Kent), silver fibulæ with chains found near, 396
Food vessels from dolmens in Japan, 495
Fox, George E., F.S.A., and Hope, W. H. St. John, M.A., on excavations on the site of the Roman city at Silchester (Hants), in 1895, 215
Frary, *see* "Domus Inferior"
Frasnes (Belgium), gold collar and coins from, 399, 404
Freshfield, E., LL.D., F.S.A., notes on the church now called the mosque of the Kalenders at Constantinople, 431
Frevile, Elizabeth, 170
Fullers, representation of, in wall-painting at Pompeii, 310
Fumon-mura (Japan), dolmen at, 518
Furuichi (Japan), burial-mound at, 523
Fujiidera (Japan), burial-mound at, 459

G.

Gairdner, James, on the battle of Bosworth, 159
Galbert, 271
Gardner, Professor Percy, theory of, regarding quadriga on Mausoleum at Halicarnassus, 365
Garlands, making of, in wall-painting at Pompeii, 310
Gates, Sir John, 331
Gee, Rev. H., B.D., F.S.A., on the *Domus Inferior* or Frary of our oldest Charterhouses, 525
Gemmyō, empress of Japan, 508

Gems, gnostic, from Æsica (Northumb.), 179, 180; imitation, from Silchester (Hants), 430
Gênes, Jean de, 260
Geneva, waxed tablets at, 272
Glass objects: beads, 211, 212, 472, 477, 478, 486; bowls, 205, 212, 231; handle, 430; vase, 41, 43; vessels, 205, 210, 212, 213; from Doclea, 41, 43; High Down (Sussex), 205, 211-213; Japan, 472, 477, 486; Silchester (Hants), 231 252, 430
Glastonbury (Somerset), compass-work on woodwork decoration from lake-village at, 402
Godelee, John, dean of Wells, 326
Goetweih, waxed tablets from, 275
Gold objects: armlets from Alexandria, 396 397; Breslau museum, 404; Hurstpierpoint (Sussex), 398; Waldalgesheim (Germany), 398; boat and fittings from Ireland, 392; bowl from Ireland, 393; chains from Curium, 394; Egypt, 395, 397; Etruscan tombs, 394; Ireland, 394; collars from Frasnes (Belgium), 399, 404; Ireland, 399; Royal Irish Academy, 405; Serviés-en-Val (France), 400; Waldalgesheim, 404; ear-ring from Japan, 491; Kalymnos, 395; necklets from Douglas (Isle of Man), 398; Ireland, 398; pendant from Japan, 491; ring from Æsica (Northumb.), 179, 180; votive deposit from north-west coast of Ireland, A. J. Evans, M.A., F.S.A., on, 391
Gold-plated rings, from dolmens in Japan, 484, 489
Goodman, ———, dean of Wells, 330
Gose (Japan), dolmen near, 524
Goslar, waxed tablets from, 275
Gothland, silver neck-rings from, 398
Gouffier, cardinal Aimar de, 99
Gowland, W., F.S.A., on the dolmens and burial-mounds in Japan, 439
Graecia Magna, the vases of, Talfourd Ely, M.A., F.S.A., on, 113
Grande Chartreuse, the *Domus Inferior* of, 525, 526
Grappling-iron, gold from Ireland, 392
Greek tablets, 265
Greenfield, William de, archbishop of York, 15; ordinance of, relating to Beverley, 8
Greetwell, near Lincoln, Roman villa at, 244
Gretham, Richard of, 4
Grimes graves, animal remains from, 134
Grosseteste, Robert, bishop of Lincoln, 15
Guibert, abbot of Nogent, 269
Guigo, prior of the Grande Chartreuse, 526
Gyōgi, the priest, 494

H.

Habikiyama (Japan), dolmen at, 457
Habitancium (Northumb.), bronze brooch from, 185
Halicarnassus, the Mausoleum at, the probable arrangement and signification of its principal sculptures, E. Oldfield, M.A., F.S.A., on 343; Amazon frieze, 345-351, 384; architectural arrangement of pteron, 343; bronze harness of chariot horses, 354, 387; Centaur frieze, 346-351, 385; chariot frieze, 351, 352; detached statuary, 373-383; east front, restoration of, 346; equestrian group of heroic size, 373; female heads, 374; figures in quadriga, 354-373; head of Mausolus, 354; lions, 383; longitudinal section of interior, 347; male heads, 379, 380; measurements of figures and quadriga, 368; panels, 353; plan of pteron, 344; quadriga, 354; south side, elevation of, 347; statue of male person, 374; theory of Professor Percy Gardner as to quadriga, 365
Halle-on-the-Saal, use of waxed tablets at, 276
Halle, Swabia, waxed tablets from, 260, 276
Halton Chesters (Northumb.), area of Roman fortress at, 195
Hamada (Japan), dolmens at, 449, 514
Hamburg, use of waxed tablets at, 274

Ham Hill (Somerset), Roman scale armour from, 198
Hammer, iron, from Silchester (Hants.), 252
Handa (Japan), dolmen at, 469
Handle, glass, from Silchester (Hants), 430
Hanging Hill, 175, 178
Hanover, waxed tablets at, 274
Hardwick, John, 161
Harima (Japan), dolmens in the province of, 514, 522
Hariulf, abbot of Oudenburg, 268
Harness, bronze, from Mausoleum at Halicarnassus, 354, 387; iron, from dolmens in Japan, 480, 487
Hastings, Lord, 170
Hatshepsu, temple of, 140
Hattorigawa (Japan), dolmen at, 448, 467, 516, 523
Haverfield, F., M.A., F.S.A., on the Roman town of Doclea, in Montenegro, 33; notes on excavations at Æsica in 1894, 195
Haya-hime, tomb of, 469
Hearths, found at Silchester (Hants.), 217, 246, 411, 413, 416, 417
Hecatomnus, 382
Helmet, bronze, from river Thames, 403; iron, from dolmens in Japan, 484, 486
Hembrigge, Richard, sergeant-at-arms, 12
Henry II., king of England, Charterhouse of Witham (Somerset) founded by, 525
Henton (Somerset), Charterhouse with *Domus Inferior* at, 525, 528, 529, 530
Henty, E., 202
Hephaestion, 355; funeral pyre of, 388
Hephaistos and Ares, on a Greek vase, 117
Hercules, 350, 351, 355, 356, 357; bronze statuette of, A. S. Murray, LL.D., F.S.A., on, 199
Hercules and Auge, on wall-painting at Pompeii, 311, 312
Hercules, the infant, on wall-paintings at Pompeii, 311, 314
Hereford cattle, 152
Hermann of Reichenau, 271
Hermes, 356, 357; on a Greek vase, 117
Hero and Leander, on wall-painting at Pompeii, 311, 312
Hia How Kao, tomb of, 440
Hiero II. of Syracuse, coins of, 357
High Down (Sussex), further excavations in a cemetery of South Saxons on, by C. H. Read, Secretary, 202
Highland cattle, 150
Higo (Japan), dolmens at, 443, 483; armour from, 486; personal ornaments from, 491; stirrup-iron from, 489
Himeji (Japan), dolmens near, 514, 522
Hindu Kush, silver dish from, 534
Hippolyte, the Amazon Queen, 350, 351
Hirano (Japan), dolmen at, 520
Hochbühel, near Meran, bronze brooches from, 188
Hod Hill (Dorset), bronze brooch from, 188, 189; Roman scale armour from, 198
Hōki (Japan), dolmens in the province of, 443, 451, 460, 463, 510, 514, 522
Holcombe (Somerset), prebend of, 324
Holinshed, R., account of battle of Bosworth by, 166
Holm, Richard of, 4
Hope, W. H. St. John, M.A., on excavations on the site of the Roman city at Silchester (Hants) in 1896, 409
Hope, W. H. St. John, M.A., and Fox, George E., F.S.A., on excavations on the site of the Roman city at Silchester (Hants) in 1895, 215
Hopton, Ralph, 528
Horse, terra-cotta figure of, from dolmen in Japan, 502, 503
Horse-furniture, bronze, from Mausoleum at Halicarnassus, 354, 387; iron, from dolmens in Japan, 480, 487
Housesteads (Northumb.), area of Roman fortress at, 195
Hughes, T. McKenny, M.A., F.R.S., F.S.A., on the more important breeds of cattle which have been recognised in the British Isles in successive periods, and their relation

Hughes, T. McKenny—*continued.*
to other archaeological and historical discoveries, 125; on some waxed tablets said to have been found at Cambridge, 257
Huish Brent (Somerset), prebend of, 324, 328
Human figures, terra-cotta, from dolmens in Japan, 500. 501
Human remains from High Down (Sussex), 211, 212, 213, 214; from dolmens in Japan, 473, 477, 479
Hurstpierpoint (Sussex), gold arm-ring from, 398
Hyūga (Japan), dolmens in the province of, 460, 463, 485, 514; rock-tombs, 441
Hywel Dda, laws of, 148

I.

Idria di Baća (Gorizia), bronze brooch from, 188
Idrieus, 359, 371, 381, 382
Ilkley (Yorks.), animal remains from, 136.
Ilminster (Somerset), prebend of, 324, 328
Imaichi (Japan), dolmens at, 455, 462, 480, 515, 522; objects from, 468; plan of, 467; sarcophagi in, 468
Inaba (Japan), dolmens in the province of, 510
Inscriptions:
Greek, on glass phial from High Down (Sussex), 205, 206, 212; Roman, from Æsica (Northumb.), 196; Doclea (Montenegro), 63, index to, 90; on ring from Pompeii, 304; on seals from Pompeii, 303; on tub from Silchester (Hants), 414
Inventories of certain Churches in the City of London in the patronage of St. Paul's Cathedral Church, between the year 1138 and 1250, by W. Sparrow Simpson, D.D., F.S.A., 291; St. Antholin, Watling Street, 293; St. Augustine, Watling Street, 292, 300; St. Benet, Gracechurch, 296; St. Benet, Paul's Wharf, 291; St. Botolph, Billingsgate, 296; St. Giles, Cripplegate, 294; St. Helen, Bishopsgate, 295, 299;
Inventories of certain churches—*continued.*
St. John, Walbrook, 294; St. John Zachary, Maiden Lane, 297; St. Martin Orgar, St. Martin's Lane, 296; St. Mary, Aldermanbury, 294; St. Mary Magdalen, Milk Street, 297; St. Mary Magdalen, Old Fish Street, 298; St. Michael de Ædreshuda, 299; St. Michael le Quern, 292; St. Michael, Queenhithe, 295; St. Olave, Jewry, 299; St. Peter, Paul's Wharf, 291; St. Peter le Poor, 295; St. Stephen, Coleman Street, 298; St. Thomas Apostle, 293; table showing distribution of books, ornaments and vestments, 290
Iphigenia, on a Greek vase, 117
Ireland, bronze discs from, 403; votive deposit of gold objects found on the north-west coast of, A. J. Evans, M.A., F.S.A., on, 391; waxed tablets found in, 262, 265
Irish Academy, Royal, bronze radiated crown in museum of, 403; gold collar in museum of, 405
Iron objects: anvil, 252; armour, 485; arrow-heads, 479, 484; buckles, 212, 213; candlestick, 430; cart pole (?), end of, 430; collars of water pipe, 422; compasses, 252, 402, 430; cuirass, 484, 486; dagger, 479; dirk, 484; hammer, 252; helmet, 484, 486; horse-furniture, 480, 487; javelin heads, 252; keys, 252, 430; knives, 211-214, 252, 430; lamps, 430; lamp-stand, 252; nails, 213, 477; pins, 213; pivot and strap of gate, 424; rings, 211, 212; shears, 252; spear-heads, 211, 213, 479, 480, 485; stirrup-irons, 489; styli, 252, 430; swords, 479, 482; trowel, 252; tweezers, 211: from High Down (Sussex), 211-214: Japan, 477, 479, 480, 482, 484-489; Silchester (Hants.), 252, 422, 424, 430; tomb of Ollamh Fodhla, 402
Isaias, in mural painting at Albi, 107
Isokami (Japan), terra-cotta sarcophagus from, 471, 472, 524
Italian cattle, 138, 141

Iwaki (Japan), dolmens at, 443
Iwami (Japan), dolmens in the province of, 514, 515
Ixion, on wall-paintings at Pompeii, 311, 314
Iyo (Japan), dolmens in the province of, 451, 515
Izumo (Japan), dolmens in the province of, 443, 450, 451, 453, 459, 460, 463, 510, 515, 522

J.

Jacob, dream of, and building altar, in mural painting at Albi, 105
Jaktorowo (Poland), 132
Janer, waxed tablets at, 275
Japan, the dolmens and burial mounds in, by W. Gowland, F.S.A., 439; age of, 473, 504; armour from, 484, 485; arrow-heads from, 484, 485; beads from, 472, 474, 477, 478, 486; bronze objects from, 472, 475, 476, 490; classes of dolmens, 444, class I., 449, II. and III., 450, IV., 467; contents of, 473; dimensions of, table of, 513; distribution of, 439, 442; dress, articles of, from, 489; forms of, 443; horse-furniture from, 480, 487; human remains from, 473, 477, 479; iron objects from, 477, 479, 480, 482-489; orientation of, 450; personal ornaments from, 480, 484, 489; pottery from, 480-482, 486, 492-504; sarcophagi in, 454, 455, 461, 464, 466, 467, 468, 469, 471, 472, 474, 475, 477, table of, 522; spindle whorls from, 479, 480, 481; stone figures from, 503; structure of, 439, 446; swords from, 479, 482; the term "dolmen," 442; terra-cotta figures from, 500-504; terra-cotta tubes on, 459; vermilion found in, 472, 476, 481
Jasper, beads of, from Japan, 474, 477, 478, 486
Javelins, iron, from Silchester (Hants.), 252
Jet bead, from High Down (Sussex), 212
Jezerine (Bosnia), silver chains and fibulæ from, 395
Jimmu, emperor of Japan, 493
Jitō, empress of Japan, 462
Jocelin, bishop of Wells, 319, 325, 326
John of Lorraine, cardinal, 99
Jouffroi, Heliundus, 106; Henry, 106, Jean, cardinal, portrait of, 106
Jucundus, codex from tomb of, 258
Judas, the Betrayal by, mural painting of, at Albi, 106
Judgment, the Last, mural painting of, at Albi, 103
Jug, bronze, from Silchester (Hants.), 418

K.

Kaharumachi (Japan), dolmens near, 513
Kalenders, mosque of, at Constantinople, notes on the church now called, by E. Freshfield, LL.D., F.S.A., 431; east end, 432, 433, 434; marble slabs, 436; plan, 432; sections, 434, 435, 437; screen, 433, 435
Kalymnos, gold and pearl ear-rings from, 395
Kamichūjo (Japan), terra-cotta horse from, 503
Kawachi (Japan), dolmens in the province of, 443, 450, 451, 460, 475, 510, 516, 517, 523; bronze arrow-heads from 476; pottery from, 498; rock-tombs in, 441
Keikō, emperor of Japan, 469
Keitai, emperor of Japan, burial-mound of, 462
Kele, Thomas, 4
Kerry cattle, 152
Keys, iron, from Silchester (Hants.), 252, 430
Killom, Sir Richard, vicar of Beverley Minster, 4
Kinghorn (Fife), bronze armlet from, 191
Kingsholm (Glouc.), bronze brooch from, 183, 184, 186
Kirkby Mallory (Leicester), 162
Kirkby Thore (Westmorland), bronze brooches from, 184, 185
Knife, iron, from High Down (Sussex), 211-214; Silchester (Hants.), 252, 430
Kokubu (Japan), rock-tombs near, 471
Korea, curved beads found in, 478; dolmens in, 506; pottery of, 494, 497

Koshi (Japan), dolmens at, 448, 520; plan of, 465
Kotoku, emperor of Japan, 507
Kōtsuki (Japan), dolmens in the province of, 443, 460, 463, 510, 517, 518, 523: pottery from, 499; terra-cotta figure from, 502, 503
Kurayoshi (Japan), dolmens at, 463, 514, 522
Kuroda (Japan), dolmens at, 467, 469, 513, 514, 522
Kyllyng, Richard, 4
Kyōto (Japan), burial-mound near, 441
Kyūshū (Japan), dolmens at, 441, 443, 510; bronze swords from, 475; kitchen middens at, 504; pottery from, 497, 498; stone figure from, 503

L.

Labranda, 351
Labrys, 351
Ladrone Islands, cattle of, 142
Lambert of Angers, 268
Lamp, iron, from Silchester (Hants), 430
Lamp-stand, iron, from Silchester (Hants), 252
Lararia, at Silchester (Hants), 224, 237
La Reolle, priory of, 270
Lares and *Penates*, opinions on, 307-310
Lausanne, animal remains in museum at, 131
Lauterach, near Bregenz, silver fibulæ, chain and coins from, 396
Lawrence, Edwin, Greek vase belonging to, 122
Laybach Fen, prehistoric village in, 127
Leach, Arthur F., M.A., F.S.A., on a clerical strike at Beverley minster, in the fourteenth century, 1
Leaden objects, candlestick from Silchester (Hants), 430; steelyard weights from Silchester, 252
Leander and Hero, on wall painting at Pompeii, 311, 312
Leather objects, case for waxed tablets, 261; shoes from Silchester (Hants), 417
Leicester, mosaic pavement at, 247
Leipsig, waxed tablets at, 275
Leochares, 381
Lichfield (Staffs.), 167
Liegnitz, municipal register of, 275
Ligula, *see* Spoon
Liguria, brooches from, 182
Lisieux, Thomas, dean of St. Paul's, 284
Liverpool Museum, waxed tablets in, 265
London:
Churches:—St. Antholin, Watling Street, 285, inventory of, 293; St. Augustine, Watling Street, 285, inventory of, 292, 300; St. Benet, Gracechurch, 285, inventory of, 296; St. Benet, Paul's Wharf, 284, inventory of, 291; St. Botolph, Billingsgate, 285, inventory of, 296; St. Giles, Cripplegate, 285, inventory of, 294; St. Helen, Bishopsgate, 285, inventory of, 295, 299; St. John, Walbrook, 285, 287, inventory of, 294; St. John Zachary, Maiden Lane, 285, inventory of, 297; St. Martin Orgar, St. Martin's Lane, 285, inventory of, 296; St. Mary, Aldermanbury, 285, inventory of, 294; St. Mary Magdalen, Milk Street, 285, inventory of, 297; St. Mary Magdalen, Old Fish Street, 285, inventory of, 298; St. Michael de Ædreshuda, 285, inventory of, 299; St. Michael le Quern, 284, 287, inventory of, 292; St. Michael, Queenhithe, 285, 286, inventory of, 295; St. Olave, Jewry, 285, inventory of, 299; St. Paul's, visitations of certain churches in the patronage of, 283; St. Peter, Paul's Wharf, 284, inventory of, 291; St. Peter le Poor, 285, 286; inventory of, 295; St. Stephen, Coleman Street, 285, inventory of, 298; St. Thomas Apostle, Knight Rider Street, 285, inventory of, 293; visitations of certain churches in the city of London in the patronage of St. Paul's Cathedral Church, between the years

London—*continued.*
1138 and 1250, by W. Sparrow Simpson, D.D., F.S.A., 283
The Charterhouse, 529
Ditch of Roman city of, near Aldersgate, 427
London, Walter de, dean of Wells, 326
Longespée, William, earl of Salisbury, 525
Long-horned cattle, 154
Louis IX., king of France, account of 271
Louth, Sir Nicholas of, canon of Beverley, 3, 5, 6, 12, 13
Lowthorp, Sir Robert of, 4
Lübeck (Germany), waxed tablets found at, 269
Lucania, Greek vases from, 118
Lydney (Glouc.), temple of Nodens at, 408
Lynwoode, Sir Robert of, 4
Lyons (France), animal remains from, 131
Lysander, 355
Lysippus, statuette of Hercules by, 201

M.

Magna Graecia, the vases of, Talfourd Ely, M.A., F.S.A., on, 113
Majorfi, Camillo, 261
Marble objects from the house of Aulus Vettius at Pompeii, 303
Martigny, bronze brooches from, 189
Mathematical Instruments, a sixteenth century case of, P. G. Stone, F.S.A., on, 531; list of instruments, 532
Matsushiro (Japan), dolmens at, 451, 519
Mausoleum at Halicarnassus, the probable arrangement and signification of its principal sculptures, E. Oldfield, M.A., F.S.A., on, 343; Amazon frieze, 345-351, 384; architectural arrangement of pteron, 343; bronze harness of chariot horses, 354, 387; Centaur frieze, 346-351, 385; chariot frieze, 351, 352; detached statuary, 373-383; east front, restoration of, 346; equestrian group of heroic size, 373; female heads, 374; figures in quadriga, 354-373; head of Mausolus, 354; lions, 383; longitudinal section of interior, 347; male heads, 379, 380; measurements of figures and quadriga, 368; panels, 353; plan of pteron, 344; quadriga, 354; south side, elevation of, 347; statue of male person, 374; theory of professor Percy Gardner as to quadriga, 365
Mausolus, 359, 360, 361, 362, 364, 372, 377, 381, 386, 387; head of, 354
Maxentius, victory of Constantine over, in mural painting at Albi, 106
Mayor, Professor J. B., 259
Medun (Montenegro), fortress at, 37
Melas, 350
Melksham (Wilts), animal remains from, 131
Memphis, codex from, 258
Mentz, monument at, 189
Mera, the mastaba of, 28
Midas-Necropolis, Phrygia, 356
Milne, J. G., M.A., on the Roman town of Doclea, in Montenegro, 33
Milverton Prima (Somerset), prebend of, 324, 327
Minerva, bust of, at Doclea, 53; temple of, at Doclea, 54
Mino (Japan), dolmens in the province of, 443, 450, 451, 481, 518
Mi-no-hara (Japan), dolmen at, 455, 519, 523
Mirrors, from dolmens in Japan, 491
Mise (Japan), dolmen at, 460, 520, 523; plan of, 461
Misericords, in Wells cathedral, 319, 325; description of, 340
Mommu, emperor of Japan, 462, 508
Morača river (Montenegro), Roman bridge over, 35
Mosaic pavements from Silchester (Hants), 221, 225, 226, 227, 236, 240, 241, 244; materials of, 246

Moulds, stone, for casting bronze swords, 476
Mount, bronze, from High Down (Sussex), 212, 213
Mount, W. G., bronze statuette from Silchester, in the possession of, 239
Muchelney, abbot of, a prebendary of Wells, 324, 328, 331, 332
Munich, waxed tablets in the National Museum at, 260, 274, 276
Munro, J. A. R., M.A., F.S.A., on the Roman town of Doclea, in Montenegro, 33
Mural paintings in the cathedral church at Albi, 102
Murray, A. S., LL.D., F.S.A., on a bronze statuette of Hercules, 199
Musashi (Japan), dolmens at, 443, 510
Muthill (Aberdeen), bronze armlet from, 191
Myōhōji (Japan), dolmen at, 448, 464, 520, 523

N

Nagase (Japan), dolmens near, 514
Nails, bronze, from Silchester (Hants), 252; iron, from High Down (Sussex), 213; dolmens in Japan, 477
Nakayama (Japan), dolmen at, 518, 523
Nancy (France), wax tablets on tapestry at, 266
Nara (Japan), dolmen at, 457; incised boulders from, 504; plan of, 456; terra-cotta tube from, 459; the temple Tōdaiji, 425, 504, 507
Narahara (Japan), dolmens at, 520
Narbonne (France), church at, 95
Necklets, gold, from Douglas (Isle of Man), 398; Ireland, 398; silver, from Douglas, 398; Gothland, 398
Needles, bone, from Silchester (Hants), 252
Nephrite, beads of, from Japan, 478
Nevill, Alexander, archbishop of York, 1, 14; visitation of, to Beverley, 4; notice of the life of, 17
Newry (Ireland) bronze armlet from, 191, 403
Newsome, Bartholomew, case of mathematical instruments made by, 532; notes concerning, 533
Newsome, Edward, 533
Newton, Sir Charles, 345, 349, 350, 353, 354, 355, 357, 358, 362, 363, 365, 373, 382, 387, 389
Newton St. Loe (Somerset), animal remains from, 131
Nike, 357
Nintoku, emperor of Japan, burial-mound of, 459, 460, 463
Nodens, temple of, at Lydney (Glouc.), 408
Nola, Greek vase from, 119
Nonsberg, near Dercolo, bronze brooches from, 188
Nordhausen, waxed tablets from, 275
Norfolk, duke of, 175
Normanby, John of, 4
Northumberland, earl of, 175
Nuremberg (Germany), use of waxed tablets at, 270

O.

Oar, gold, from Ireland, 392
Oar-blade, oak, from Ireland, 392
Oilmakers, represented on wall painting at Pompeii, 311
Ōjin, emperor of Japan, burial-mound of, 460, 463
Ōkamedani (Japan), dolmen at, 457, 520
Okayama (Japan), dolmens near, 513, 522
Olympia, monument of Philip of Macedon at, 381
Oldfield, E., M.A., F.S.A., on the Mausoleum at Halicarnassus, the probable arrangement and signification of its principal sculptures, 343
Ollamh Fodhla, tomb of, objects from, 402
Ōmi (Japan), dolmens in the province of, 443, 449, 450, 518; armour, rings and swords from, 484

Omphale, queen of Lydia, 351
Ōmuro (Japan), dolmens at, 462, 517, 518
Ornamental vessels from dolmens in Japan, 495, 498
Ornavasso (Italy), bronze brooches from, 189; silver chains, fibulæ, and coins from, 395
Otâ (Japan), dolmen at, 462
Our Lady, coronation of, on gateway at Albi, 97; figure of, at Albi, 98, 111
Our Lady of Pity, in mural painting at Albi 106
Our Lord, appearing to Mary Magdalene, in mural painting, 106; bearing the cross, in mural painting, 106; betrayal of, in mural painting, 106; crucifixion of, in mural painting, 106, 107; in glory, in mural painting, 106; resurrection of, in mural painting, 106
Oxford, earl of, 167, 173
Oya (Japan), dolmens at, 518

P.

Paestum, Greek vase from, 119
Pail, bronze, from Waldalgesheim (Germany), 398
Paintings, mural, in cathedral church at Albi, 102; at Pompeii, 302-317
Pan and Eros, on wall-paintings at Pompeii, 311, 317
Pannonia, type of brooches from, 183
Pantaleon, king of India, 536
Parheri, tomb of, at El Kab, 31
Paris, waxed tablets at, 272
Paropamisus, 535, 536
Pasiphae and Daedalus, on wall-paintings at Pompeii, 311, 314, 316
Passion, the, instruments of, on arch at Albi, 99; in mural painting at Albi, 106
Patella, Roman, from Stanhope (Peeblesshire), 403
Patroclus, 352
Peace, figure of, on brass case, 531
Peckleton (Leicester), 162
Penates and *Lares*, opinions on, 307-310
Pendants, gold, from dolmen in Japan, 491
Pentheus, the death of, on wall-paintings at Pompeii, 311, 314
Perseus and Andromeda, on wall-paintings at Pompeii, 311, 313
Personal ornaments from dolmens in Japan, 489
Perugia, brooch from, 182
Phial, glass, with Greek inscription, from High Down (Sussex), 205, 212; analysis of contents, 207
Philip III., king of France, accounts of, 271
Philip IV., king of France, accounts of, 271
Philip of Macedon, monument of, 381
Philistis, coins of, 357
Pignoria, description of codex by, 258
Pins, bone, from Silchester (Hants.), 252; bronze, from High Down (Sussex), 213; iron, from High Down, 213
Pisistratus, 355, 356
Pittheus, 350
Pittkelloney (Aberdeen), bronze armlet from, 191
Pivot, iron, from gate at Silchester (Hants.), 426
Pixodarus, 382
Plate, bronze, from High Down (Sussex), 212, 213; heart-shaped, from High Down, 211
Plunton Castle (Kirkcudbright), bronze armlet from, 192, 397
Podgorica (Montenegro), palace of Krušna Glavica near, 39, 53; vase at, 41, 43
Polden Hill, near Bridgewater (Somerset), bronze objects found at, 191
Polling, wax tablets from, 276
Polycletus, the Doryphorus of, 201
Pompeii, the house of Aulus Vettius recently discovered at, Talfourd Ely, M.A., F.S.A., on, 301; bronze statuettes from, 303; marble objects from, 303; plan of, 302; ring from, 303, 304; seals from, 303;

Pompeii—*continued.*
wall paintings in, 302-317; waxed tablets found at, 267, 270
Pont-y-Saison (Mon.), bronze brooch from, 184
Porphyry, found at Silchester (Hants.), 429
Pottery, from dolmens in Japan, 480, 481, 482, 486, 492-504; High Down (Sussex), 209, 211, 212, 213; Silchester (Hants.), 231, 245, 253, 422, 428; the vases of Magna Graecia, Talfourd Ely, M.A., F.S.A., on, 113
Poverty, figure of, on brass case, 531
Prat, Cardinal Antoine de, 99
Prebendal stalls, in Wells cathedral church, 319; arrangement in the chapter-house, 328, 339; arrangement in the choir, 327, 337, 338; bench end, 335; canopies destroyed, 336; canopies and panelling, 339; destroyed, 337; ground plan of, in choir, 338; history of, 325; list of prebends, 320; misericords, 340
Preston (Lanc.), animal remains from, 131
Price, F. G. Hilton, F.S.A., gold bracelets in the collection of, 396
Priene, marble head from temple of Athene Polias at, 375
Provins, use of waxed tablets at, 274
Psychopompus, 356
Ptah-hotep, tomb of, 28
Pump, bronze, from Bolsena (Italy), 234; note on by F. Davis, F.S.A., 254; from Castrum Novum, 234; from Silchester (Hants.), 232, 254
Pythis, 359, 360, 369, 370, 371, 372

R.

Ralph, bishop of Wells, 326
Ratisbon, waxed tablets from, 260
Ravenser, Richard of, archdeacon of Lincoln, 2, 5, 6, 7, 12
Reach Lode (Camb.), animal remains from, 136
Read, C. H., Secretary, on further excavations in a cemetery of South Saxons on High Down (Sussex), 202; on a silver dish with a figure of Dionysos from the Hindu Kush, 534
Realgar, found at Silchester (Hants), 252
Reiner, monk of St. Lawrence, Liège, 271
Resurrection, the, in mural painting at Albi, 106
Ribble, river, animal remains from, 131
Rich, Edmund, treasurer of Salisbury, 525
Richard, archbishop of Canterbury, 14
Richū, emperor of Japan, burial-mound of, 460, 463
Riesenquelle, near Dux (Bohemia), bronze brooch from, 182
Rings, bronze, from Æsica (Northumb.), 179, 180; High Down (Sussex), 211; Japan, 490; Silchester (Hants), 429; gold, from Æsica, 179, 180; gold-plated, from Japan, 484, 489; iron, from High Down, 211, 212; metal, from Pompeii, 303, 304; silver, from Japan, 480, 490
Robert, bishop of Wells, 319
Robertet, Charles de, bishop of Albi, 102, 105, 110
Rock-tombs, Egyptian, of the methods used in making and ornamenting, by Somers Clarke, F.S.A., 21; in Japan, 441
Roger, archbishop of York, 14
Rokuya (Japan), dolmens at, 469, 483, 519; horse-furniture from, 487, 488
Roma, bust of, at Doclea (Montenegro), 45, 53, 54; temple of, at Doclea, 54
Roman cattle, 137
Roman remains: Æsica (Northumb.), 179, 195; Chatelet (France), 423; Doclea (Montenegro), 33; London, 427; Pompeii, 301; Silchester (Hants), excavations in 1895, 215; in 1896, 409
Roman tablets, 266, 267
Romano-British cattle, 135
Romanus, archbishop of York, 15; ordinance of, relating to Beverley, 11

Ross, Sir Robert, 12
Rotherley (Dorset), bronze brooches from, 184
Rouen (France), use of waxed tablets at, 271, 276
Rovinski, M. Paul, 33, 38, 41, 63
Rutchester (Northumb.), area of Roman fortress at, 195
Ruysbrock, John, 261
Ryōseki (Japan), dolmen at, 519, 520; horse furniture from, 488

S.

Sabinus, P. Vettius, 318
Saimei, empress of Japan, 465
St. Alain of Lavour, statue of, at Albi, 99
St. Amarand, statue of, on porch at Albi, 99
St. Andrew, in mural painting at Albi, 107
St. Anne, in mural painting at Albi, 105; statue of, at Albi, 99
St. Anselm, 270
St. Anthony, medallion of, at Albi, 108
St. Augustine, medallion of, at Albi, 107; mention of waxed tablets by, 263
St. Benedict, 268
St. Benedict of Castres, statue of, at Albi, 99
St. Bernard, 270, 526; on the gateway at Albi, 97
St. Bernardine, sermons of, 274
St. Blaise, in mural painting at Albi, 107
St. Boniface, 263, 270
St. Bruno, 525
St. Carissima, statue of, on porch at Albi, 99
St. Cecily, in mural paintings at Albi, 105, 107; statues of, at Albi, 96, 110, 112
St. Christopher, mural painting of, at Albi, 105
St. Clair, bishop of Albi, 103
St. Dominic, medallion of, at Albi, 107; statue of, on gateway at Albi, 96
St. Eugene, statue of, on porch at Albi, 99
St. Francis of Assisi, medallion of, at Albi, 107
St. Geneviève of Paris, figure of, at Albi, 112
St. George, in mural painting at Albi, 105, 107
St. German de Prés, waxed tablets in library of, 259, 272
St. Helen, in mural painting at Albi, 106; medallions of, at Albi, 106, 107
St. Hugh, 527, 528
St. James the Great, in mural painting at Albi, 97, 105, 106, 107
St. James the Less, in mural painting at Albi, 106
St. Jerome, in mural painting at Albi, 107
St. Joachim, vision of, and meeting with St. Anna, in mural painting at Albi, 105
St. John Baptist, statue of, at Albi, 111; story of, in mural painting at Albi, 106
St. John the Evangelist, statue of, at Albi, 97; story of, in mural painting at Albi, 106
St. Joseph, statue of, at Albi, 99
St. Katherine, in mural painting at Albi, 107
St. Lawrence, in mural painting at Albi, 107
St. Louis of Toulouse, on the gateway at Albi, 97
St. Luke, in mural painting at Albi, 107
St. Mametus, in mural painting at Albi, 107
St. Marciane, statue of, on porch at Albi, 99
St. Martial, in mural painting at Albi, 107
St. Mary Magdalene, in mural painting at Albi, 106, 107; statue of, at Albi, 97, 99
St. Michael, in mural painting at Albi, 106, 107
St. Michael of Gaillac, statue of, at Albi, 99
St. Mochteus, 265
St. Paul, in mural painting at Albi, 106, 107; statue of, at Albi, 99, 111
St. Père, monastery of, 271
St. Peter, statue of, at Albi, 99; story of, in mural painting at Albi, 106
St. Peter Martyr, medallion of, at Albi, 107
St. Peter of Verona, on the gateway at Albi, 97
St. Philip, in mural painting at Albi, 106
St. Pons, on the gateway at Albi, 97
St. Quintin, Anthony of, rector of Settrington, 12
St. Radegonde, in mural painting at Albi, 107
St. Raphael, in mural painting at Albi, 106
St. Roche, in mural painting at Albi, 107, 108
St. Salome, in mural painting at Albi, 107

St. Salvi, statues of, at Albi, 97, 99
St. Sebastian, statue of, at Albi, 106
St. Sigolena, in mural painting at Albi, 105; statue of, at Albi, 99
St. Simon, in mural painting at Albi, 106
St. Stephen, in mural painting at Albi, 107
St. Thomas Aquinas, on the gateway at Albi, 97
St. Thomas of Canterbury, 525
St. Tiburtius, on the gateway at Albi, 97
St. Ursula, in mural painting at Albi, 107
St. Valerian, in mural painting at Albi, 105, 107; statue of, at Albi, 97
St. Veronica, medallion of, at Albi, 107
St. Victor, abbaye de, waxed tablets at, 272
Sakkâra (Egypt), tombs at, 28
Sakuraidani (Japan), dolmen at, 471; terra-cotta sarcophagus from, 470, 524
Sakura-mura (Japan), dolmen at, 518
Salomon, bishop of Constance, 268
Salonica, marble slab in church of St. Demetrius, 437
Samida (Japan), dolmen at, 520
Samoisky, count, 132
Saxons, South, cemetery of, on High Down (Sussex), 202
Scampton (Lincs.), mosaic pavement at, 242
Scarborough, John de, notary public, 2
Scardeburgh, Robert of, dean of York, 15
Schulpforta, waxed tablets at, 275
Scodra, coins of, 38
Scopas, 371, 386
Scotland, animal remains from, 131 132; bronze armlets from, 191, 192, 403
Seafield (Fife), bronze armlet from, 191
Seals, from house of Aulus Vettius at Pompeii, 303
Sedgwike, master, vicar of Marflete, 8
Selkirk (Scotland), animal remains from, 131
Selzen (Bavaria), bronze brooch from, 188
Sen-dzuka (Japan), 509
Seoul (Korea), pottery in use at, 497
Serviés-en-Val (France), gold collar from, 400
Seti I., temple of, at Abydos, 29; tomb of, at Thebes, 27
Settsu (Japan), dolmens in the province of, 443, 460, 518, 519, 523, 524; potteries, 495
Shalford (Somerset), prebend of, 324
Shears, iron, from Silchester (Hants.), 252
Sheath, bronze, from High Down (Sussex), 213, 214
Shenton (Leicester), 163
Shiba (Japan), dolmen at, 451; contents of, 474, 476; horse-furniture from, 487, 488; iron arrow-head from, 485; plan of, 452
Shiba-mura (Japan), dolmen at, 516
Shield, bronze, from river Thames, 403; river Witham, 402
Shijo-mura (Japan), dolmens at, 516
Shimotsuke (Japan), dolmens at, 443, 474, 510
Shinano (Japan), dolmens in the province of, 443, 519
Shiroishi (Japan), horse-furniture from dolmen at, 488
Shoes, copper-gilt, from Japan, 489; leather, from Silchester (Hants.), 417
Shōmu, emperor of Japan, 507
Short-horn, the Celtic, 133
Shōso-in, the treasure-house, 506, 507
Siena, waxed tablets at, 274
Silchester (Hants.), excavations on the site of the Roman city at, in 1895, W. H. St. John Hope, M.A., and G. E. Fox, F.S.A., on, 215; in 1896, W. H. St. John Hope, M.A., on, 409; animal remains, 135, 421; architectural remains, 238, 425, 429; beads, 252; block plan of portions excavated up to 1895, 253; to 1896, 430; bone objects, 252, 421; bronze objects, 239, 252, 418, 429; building south of churchyard excavated, 428; circular *pilae*, 419; coins, 252; ditch, section cut on western side, 426; fireplaces, 240, 429; gate in western wall of city found, 424; glass objects, 231, 252, 430; hearths, 217, 246, 411, 413, 416, 417; *Insula* III., building in, 424; *Insula* XIII., buildings in, 216; *Insula* XIV., buildings in, 219; *Insula* XV., buildings in, 409; *Insula* XVI.,

Silchester—*continued.*
buildings in, 415; iron objects, 252, 422, 424, 430; leaden objects, 252, 430; leather objects, 417; *Lararium*, 224, 237; letters on a tub, 414; mosaic pavements, 221, 225, 226, 227, 236, 240, 241, 244, materials of, 246; painted plaster, 248, 250; perforated blade-bones, 422; pivot and strap of gate, 426; porphyry, 429; pottery, 231, 245, 253, 422, 428; pump, 232, 254; realgar found, 252; stool leg, 430; tubs from wells, 245, 414; vivianite found, 224; water pipe, 422; wells, flint lined, 420, square, wood lined, 223, 413, 417, 418, tub lined, 245, 414; wooden objects, 232, 254, 417, 422
Silenus, marble head of, 303
Silver objects: armlets, from Japan, 480; beads from Japan, 477, 478; brooches with chains from Champagne cemeteries, 395; Chorley (Lancs.), 185, 396; Folkestone (Kent), 396; Jezerine (Bosnia), 395; Lauterach, 396; Ornavasso (Italy), 395; collar from Æsica (Northumb.), 179, 180, 397; dish from the Hindu Kush, 534; necklet from Douglas (Isle of Man), 398; Gothland, 398; rings from Japan, 480
Silver plated rings from Japan, 490
Simpson, W. Sparrow, D.D., F.S.A., visitations of certain churches in the city of London in the patronage of St. Paul's Cathedral Church, between the years 1138 and 1250, 283
Skirlaw, Walter, canon of Beverley, 5, 13
Snaith, Henry, canon of Beverley, 13
Solomon, in mural painting at Albi, 107
Sompachi (Japan), dolmen at, 518
Soteris, codex from tomb of, 258
Spanish cattle, 142
Spear-heads, iron, from dolmens in Japan, 479, 480, 485; High Down (Sussex), 211, 213
Spindle whorls, steatite, from Japan, 479, 480, 481
Spoon, bronze, from Silchester (Hants.), 252, 430
Sprottley, Sir John of, 4
Stanhope (Peeblesshire), bronze armlet from, 191, 192; Roman *patella* from, 403
Stanley, Lord, 171, 173, 174, 175
Stanley, Sir William, 173-178
Stanwick (Yorks.), bronze objects from, 191
Stanwix (Cumb.), area of Roman fortress at, 195
Stapleton (Leicester), 161, 162, 173, 174
Statuette, bronze, from Silchester (Hants.), 239
Steatite, beads of, 477, 478; spindle whorls of, 479, 480, 481
Steelyard weights, lead, from Silchester (Hants), 252
Stiri (Greece), picture screen in church of St. Luke at, 436
Stirrup-irons, from dolmens in Japan, 489
Stitchel (Roxburgh), bronze diadem from, 192
Stoke Golding (Leicester), 160, 178
Stone, P. G., F.S.A., on a sixteenth century mathematical instrument case, 531
Stone figures from dolmens in Japan, 503
Stone moulds for casting bronze swords, 476
Stool leg, wood, from Silchester (Hants), 430
Stradonic (Bohemia), bronze brooch from, 182
Strainer, bronze, from Silchester (Hants), 429
Strange, Lord, 173
Strap of gate, iron, from Silchester (Hants), 426
Strap tag, bronze, from High Down (Sussex), 212
Strassburg, school of masons at, 108; waxed tablets at, 225
Strike-a-light, from High Down (Sussex), 211, 212, 213
Studs, bronze, from High Down (Sussex), 211, 212
Stylus, bronze, from Silchester (Hants), 252; iron, from Silchester, 252, 430
Sutton Cheney (Leicester), 161, 162, 174, 177
Sutton, Long (Somerset), prebend of, 324, 328
Swiss cattle, 143
Sword guards, from dolmens in Japan, 484, 485

Swords, bronze, from Japan, 475, 476; iron, from dolmens in Japan, 479, 482
Swynfelte, John, 4

T.

Tablets, waxed, said to have been found at Cambridge, T. McKenny Hughes, M.A., F.R.S., F.S.A., on, 257; accounts of French kings kept on, 271; bibliography of, 277; chain for suspending, 261; from Pompeii, 267, 270; from Transylvania, 267; leather cases for, 261; materials of, 259; metal case found with, 261; use of, in early times, 263-276; writing on, 259
Tamba (Japan), dolmens in the province of, 443, 450, 480, 490, 519; pottery from, 498
Tamworth (Warw.), 167, 170, 171
Taniguchi (Japan), dolmen at, 518
Tarentum, vases made at, 114
Taunton, archdeacon of, 324, 327
Tenchi, emperor of Japan, 441
Tennōji (Japan), sarcophagus from, 472
Teraguchi (Japan), dolmen near, 462, 520
Terra-cotta, figures of, from Doclea, 43; from dolmens in Japan, 500-504; tubes of, on burial-mounds in Japan, 459; vessels of, from Japan, 492, 493
Thames, river, bronze helmet from, 403; bronze shield from, 403
Thebes (Egypt), tomb of Seti I. at, 27
Theseus, 350
Theseus and Ariadne, on wall painting at Pompeii, 311, 312
Thorne, Richard of, canon of Beverley, 6
Thothmes III., temple of, at Amada, 29
Ti, tomb of, 28
Tiara, copper-gilt, from dolmen in Japan, 491
Timotheus, 377
Tiverton (Devon), animal remains from, 131
Tōdaiji, the temple, 504, 507
Toilet implements, bronze, from High Down (Sussex), 214
Toome Bar (Ireland), oak oar-blade from, 392
Torque, *see* collar.
Tortuarius, Radulfus, use of wax tablets by, 271
Tosa (Japan), dolmens in the province of, 443, 450, 519, 520
Trowel, iron, from Silchester (Hants.), 252
Tsuda (Japan), dolmens at, 514, 515
Tsukahara (Japan), dolmens at, 446, 449, 519
Tsuma (Japan), dolmens near, 514
Tsuma-machi (Japan), dolmen at, 457
Tsushima (Japan), the island, 505
Tubes, bronze, from High Down (Sussex) 211; terra-cotta, on burial-mounds in Japan, 459
Turner, William, dean of Wells, 331
Tweezers, bronze, from High Down (Sussex), 211; Silchester (Hants.), 252; iron, from High Down, 211
Twigge, R. W., F.S.A., notes on the cathedral church of St. Cecily at Albi, 93
Twm Sion Catti, story of, 148

U.

Ueda (Japan), dolmen at, 483
Umstadt, tax register of, 275
Unebi, mount (Japan), burial mound at, 493
Unterlinden, waxed tablets of the monastery of, 270
Urania, on wall-painting at Pompeii, 311, 312
Urseau, Nicholas, clockmaker, 533
Urus, the, 129; found associated with neolithic implements, 130; with bronze weapons, 131

V.

Vase, glass, the Podgorica, from Doclea, 41, 43
Vases of Magna Graecia, Talfourd Ely, M.A., F.S.A., on, 113
Verespatak (Transylvania), waxed tablets from, 267

Vergil, Polydore, archdeacon of Wells, 330; account of the battle of Bosworth by, 164
Vermilion, in Japanese dolmens, 472, 476, 481
Verona, sepulchral reliefs at, 198
Vessels, bronze-gilt, from Japan, 472; glass, from High Down (Sussex), 211, 212, 213
Vesta, on wall-paintings at Pompeii, 307
Vettersfelde (Germany), electrum chains from, 395; gold treasure from, 201
Vettii family, 303, 318
Vettius, Aulus, house of, recently discovered at Pompeii, TALFOURD ELY, M.A., F.S.A., on, 301
Victory, 357
Vindex, Nonius, 201
Vine-dressers, on wall-painting at Pompeii, 310
Visitation of certain Churches in the City of London in the patronage of St. Paul's Cathedral Church, between the years 1138 and 1250, by W. SPARROW SIMPSON, D.D., F.S.A., 283
Voulte, Guillaume de la, bishop of Albi, 96
Vulci, vases found at, 115, 124

W.

Wadi Halfa (Egypt), temple of Thothmes III. at, 29
Waldalgesheim (Germany), gold arm-ring and bronze pail from, 398; gold collar from, 404
Waleys, Ralph, precentor of Beverley, 5
Wall-paintings in cathedral church of Albi, 102; in the house of Aulus Vettius at Pompeii, 302-317
Wallsend (Northumb.), area of Roman fortress at, 195
Wall Town Crag (Northumb.), Roman scale-armour from, 198
Waltham, Adam de, chaplain of Beverley, 5
War, figure of, on brass case, 531
Warminster (Somerset), prebend of, 324
Warmund, bishop, psalter of, representation of wax tablet in, 263
Water pipe, wood, at Chatelet (France), 423; at Silchester (Hants), 422
Water vessels from dolmens in Japan, 495, 497
Waxed tablets said to have been found at Cambridge, T. MCKENNY HUGHES, M.A., F.R.S., F.S.A., on, 257
Wedmore Prima (Somerset), prebend of, 324, 327, 331
Weimar, waxed tablets at, 275
Wells cathedral church, the prebendal stalls and misericords in, REV. C. M. CHURCH, M.A., F.S.A., on, 319; arrangement in the chapter house, 328, 339; arrangement in the choir, 327, 337, 338; bench end, 335; canopies destroyed, 336; canopies and panelling, 339; destroyed, 337; ground plan in choir, 338; history of, 325; list of prebends, 320; misericords, 340
Welsh cattle, 150
Wenlyngburgh, John of, canon of Beverley, 6, 7
White Moors (Leicester), 160, 161, 162, 164, 170, 173
Whiting, Richard, abbot of Glastonbury, 330
Wibald, abbot, 268
Wilibaldus, 270
Winchester cathedral church, stalls in, 334
Wine-shop, represented on wall-painting at Pompeii, 311
Witham river, bronze shield from, 402
Witham (Somerset), Charterhouse with *Domus Inferior* at, 525, 527, 528, 529, 530
Wittenberg, waxed tablets at, 275
Wyverthorp, Thomas de, rector-choral of Beverley, 5

Y.

Yamaguchi (Japan), dolmen at, 520
Yamamoto (Japan), dolmens at, 518
Yamanouchi (Japan), dolmen at, 469

Yamashiro (Japan), dolmens in the province of, 460, 520
Yamatake (Japan), dolmens at, 516
Yamato (Japan), dolmens in the province of, 441, 443, 450, 460, 510, 511, 520, 521, 523, 524; beads from, 478; bronze arrow-heads from, 476; pottery from, 499
Yarmouth, animal remains from near, 128
Yaso-dzuka (Japan), 509
Yasui (Japan), dolmens at, 515, 522, 523; pottery from, 493
Yeso (Japan), kitchen middens at, 504
Yoke-bar, wood, from Silchester (Hants), 422
York and Canterbury, quarrel for precedence between the archbishops of, 14
Yoroidzuka (Japan), burial-mound at, 460
Yusufzai, sculptures from, 535, 536

Z.

Zacharias, 263; in mural painting at Albi, 107
Zenodorus, a Greek sculptor, 200
Zeus, on coins of Caria, 351; on a Greek vase, 117; on wall-paintings at Pompeii, 311, 314
Zlatica (Montenegro), Roman remains at, 37

Westminster: Printed by NICHOLS AND SONS, 25, Parliament Street.